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Rufus Langley



A  
T R E A T I S E  
ON THE  
MANAGEMENT OF PREGNANT  
AND  
LYING IN WOMEN,  
AND THE MEANS OF CURING, BUT MORE ESPECIALLY OF  
PREVENTING THE PRINCIPAL DISORDERS  
TO WHICH THEY ARE LIABLE,  
TOGETHER WITH SOME  
NEW DIRECTIONS  
CONCERNING THE  
DELIVERY OF THE CHILD AND PLACENTA  
IN NATURAL BIRTHS.  
ILLUSTRATED WITH CASES.

By CHARLES WHITE, Esq. F.R.S.  
Man Midwife to the Lying in Hospital, in Manchester, in England, &c. &c.

First Worcester Edition.

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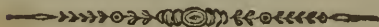
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# P R E F A C E.



THE intention of the following Treatise is to propose proper means for preventing a numerous and fatal train of evils, incident to the most amiable part of the creation ; to combat a set of pernicious maxims and opinions, built upon ignorance, and supported by prejudice and obstinacy ; and to vindicate Nature herself from a charge of neglect or insufficiency in her most important work. I have no curious singularities in theory to propose, nor any specific remedy to extol ; the only merit I claim, is merely that of having attended to, and followed Nature in her operations more closely, and with a more religious observance than hitherto perhaps has been done.

At a time when reasoning from real facts and accurate observation has taken place of idle theory  
in

in almost every other science, and has with particular advantage been applied to many branches of medicine, no apology seems necessary for trying the same method of reasoning, on this important subject, which has hitherto been too much governed by arbitrary custom, and ignorant prejudice.

On reflecting upon the cause why less progress has been made in the prevention and cure of the disorders which so fatally attack lying in women, than in many others, it seems most obvious to impute it to preconceived notions relative to the puerperal state, not founded upon fact. For while a more rational general doctrine of fevers, and the use of cool air and regimen in their cure (ever since the time of Sydenham, and especially of late) has been advanced and supported by the spirited endeavours of many able men,\* prejudices of ancient date have too much prevented the application of their principles to the febrile disorders of puerperal women, which were conceived to be of that peculiar nature of which every thing belonging to this state partook. Every improvement in practice must therefore take its rise from the establishment of more just ideas concerning

\* Friend, Glafs, Huxham, Pringle, Lee, Perkins, HucK, Dimisdale, Heberden, Brocklesby, Ruston, Watson, Baker, Kirkland, and many others.

cerning the state itself, and the causes of the disorders accompanying it ; and by a proper attention to these, I am experimentally convinced that not only the method of cure may be much advanced, but what is still more important, that these mischiefs, so distressing and dangerous, may be entirely prevented.

This then will be my chief aim in the following Treatise ; and if in pursuing it, I may seem to pay more attention to some minute circumstances, than they really deserve, let it be remembered that the slightest remark drawn from real observation, is of more utility, and gives greater satisfaction to a judicious inquirer, than the most extensive theory of causes drawn from hypothesis alone.

We are too apt to neglect what is simple and evident, for the sake of those creations of the mind which may be produced at pleasure ; but a single argument drawn from certain fact, is a surer ground to rest upon than an entire system of speculative invention. So important a law of Nature as the circulation of the blood, was deduced from a few obvious and easy experiments, after the acutest speculation of philosophers had failed in the discovery.



Were I, indeed, disposed to reason in favour of the doctrines I have attempted to lay down, upon any other ground than mere observation, various arguments, both *a priori* and from analogy would not be wanting. I might say it is inconceivable that Nature should suffer her most important process to be the least complete, and that she should need the help of art in an operation almost prior to art itself. In her inferior productions we find, that, in fact, she does not require it. The process of renewing the species, in the vegetable creation, is performed entirely by her unerring power : and the fruit when it becomes fully ripened, drops off spontaneously without the hand of art to separate it. In the whole animal race this process is equally distant from disease.\* ; Why then should the human species alone, her noblest production, undergo her unkindness or neglect in so material an object ? Though pain in bringing forth their offspring might be an unavoidable circumstance in the formation of mankind, it is however overbalanced by many advantages ; but that this most necessary operation should of itself be a disease, and should often be the source of many dangerous and even fatal maladies, appears contradictory to the general plan of Nature

\* The author here does not mean to insinuate, that either the brute or the human species are at all times exempt from preternatural births.



ture in the support and preservation of her creatures.\* But however this strain of reasoning may please a philosophic mind, or may have turned my thoughts to a peculiar way of considering the subject, I should never have ventured to build practical rules upon such a foundation. I have offered nothing but what has been the result of a long, extensive, and I may say, very successful experience among all ranks of women. How bold soever I may seem in inculcating some unusual practical directions, the actual cases which I have related, and which are only selected from a great number of similar ones, will, I hope, be my ample justification. It was the experimental knowledge of these, and of the mischiefs attending a contrary treatment, which alone influenced me to address the public on these subjects; and I desire to submit to a like experimental trial, what is  
here

\* Mr. Deparcieux at Paris, and Mr. Wargentin in Sweden, have observed, that not only women live longer than men, but that married women live longer than single women. The registers examined by Mr. Muret confirm this; and it appears particularly, that of equal numbers of single and married women between 15 and 25, more of the former died than of the latter in the proportion of two to one. The reason of this may be, as Mr. Muret acknowledges, that the women who marry are a selected body, consisting of the more healthy and vigorous part of the sex. But this probably is by no means the only reason; for it may, I think, be expected, that in this, as well as in all other instances, the consequences of following Nature must be favourable,

here offered to the judgment of the candid reader.

I cannot conclude without gratefully acknowledging the many obligations I am under to those of my learned friends, who have assisted me in revising and correcting these sheets, and to my medical correspondents who have favoured me with so many useful articles of information. The reader will at once see of what importance these have been in enabling me to deduce the practical inferences which I have attempted to establish.

*P. S. I am happy in the opportunity this fourth edition offers me, of expressing my satisfaction for the reception this work has already met with, and my hopes that its extensive circulation may have been a means of accomplishing, in a considerable degree the purposes it was intended to answer. Besides three very large impressions which have been called for at home, a translation into French has been published at Paris, and an English edition was in the press at Philadelphia when the late troubles began in that country.*



## T H E

## C O N T E N T S.



	[Page
Chap. I. <i>ON the causes and symptoms of the Puerperal or Childbed Fever</i>	- 17
Chap. II. <i>On the Miliary Fever</i>	- 34
Chap. III. <i>On the Milk Fever</i>	- 51
Chap. IV. <i>General directions for the Prevention of many Disorders peculiarly incident to the pregnant state</i>	- 57
Chap. V. <i>Of Natural Births particularly of the Secundines, and the prevention of Afterpains</i>	- - - 69
Chap. VI. <i>On the prevention of the Puerperal, Miliary, and Milk Fevers</i>	- 90
Chap.	

	Page
Chap. VII. <i>On the Cure of the Puerperal Fever</i>	136
Chap. VIII. <i>On the Cure of the Miliary Fever</i>	161

## C A S E S.

Case I. <i>The Dissection of a woman six months pregnant</i>	174
Case II. <i>A Puerperal Fever with a diarrhea</i>	176
Case III. <i>A Puerperal Fever</i>	182
Case IV. <i>A Puerperal Fever</i>	184
Case V. <i>A Miliary Fever with Abortion</i>	186
Case VI. <i>Delivery succeeded by bilious complaints ; in which a very uncommon regimen, and remarkable free use of cool air, were successfully employed</i>	192
Case VII. <i>A Puerperal Fever</i>	201
Case VIII. <i>Retention of the Placenta with Flooding, succeeded by a Puerperal Fever</i>	202
Case IX. <i>A Puerperal Fever</i>	205
Case X. <i>Retention of the Placenta with Flooding</i>	212

# THE CONTENTS.

XV

	Page
Case XI. <i>Retention of the Placenta occasioning a fatal Miliary Fever</i> -	213
Case XII. <i>Retention of the Placenta occasioning fatal Floodings</i> - -	215
Case XIII. do. - -	216
Case XIV. do. - -	ibid.
Case XV. do. - -	217
CONCLUSION - -	218
POSTSCRIPT - -	222
<i>Appendix to the second Edition</i> -	252
Sect. I. <i>On the use of the cold or temperate Bath</i> - - -	253
II. <i>On the delivery of the Shoulders of the Child</i> - -	254
III. <i>An Observation on the Management of Children at the time of Birth</i> - - -	257
IV. <i>On the Puerperal Fever and Position after delivery</i> -	261

## ADDITIONAL CASES.

Case XVI. <i>A Wound of the Omentum at the full period of Gestation, which brought on Labour</i> - -	287
Case	

	Page
Case XVII. <i>A fatal Puerperal Fever with a Dissection</i> - - -	228
Case XVIII. <i>A fatal Puerperal Fever oc- casioned by the Effluvia arising from foul Urine</i> - - -	297
Case XIX. <i>A total Inversion of the Uterus, returned by a new mode of operation</i> -	299
Case XX. <i>A fatal Puerperal Fever with a Dissection</i> - - -	304
Case XXI. <i>A remarkable Retention of the Placenta</i> - - -	308
Case XXII. <i>A fatal Mortification of the U- terus, with Dissection</i> - -	311







## CHAPTER I.

### OF THE CAUSES AND SYMPTOMS OF THE PUERPERAL OR CHILD BED FEVER.†



WOMEN, during the time of lying in, are subject to this fever, which has frequently evident symptoms of putrescency, and which, if not properly managed has often fatal effects.

That child bed women should be so liable to fevers, especially those of a putrid nature\*, is not to be wondered

† This disorder in the northern part of this Island is called the weed ; and in the southern parts by some, the lochial fever.

\* “ Puerperæ ex male affecti corporis vitio tanquam auræ pestilentialis contagio tactæ febri putridæ, seu potius maligna quam nimium obnoxie reperi-

tur;

wondered at, if we consider every circumstance, and every inconvenience they lie under, owing to bad fashions and customs ; but to trace them up to their original source we must look back as far as the early months of pregnancy. At this period the tightness of the stays, and petticoat bindings, the weight of the pockets, and of the petticoats, press the womb, already enlarged by the fœtus, and its membranes, so strongly against the lower intestines, as to prevent the descent and exclusion of the excrements. These being retained, the thinner parts are absorbed by the lacteals, which cause, or at least greatly increase, that obstinate costiveness of which most women complain during the whole time of pregnancy, and which is also farther increased by a sedentary, inactive life, and improper diet. This excrementitious

natur ; hujusce vero morbi labem haud omnes ex æquo suscipiunt : etenim pauperes rusticæ, aliæque duris laboribus assuetæ, nec non viragines, & mærettrices, quæ clandestina agunt puerperia, sine magna difficultate pariunt, & deinceps brevi a lecto excitatæ, ad solita redeunt opera ; mulieres autem ditiores, tenellæ, & pulchræ, pleræque vitam sedentariam degentes, quasi maledicti divini graviore modo participes *in dolore pariunt*, indeque mox a partu difficiles & periculosos subeunt casus."

Willis de Febribus Puerperarum, Febres  
putridæ Caput xvi.

Willis's account would not have been liable to any material objection, if he had not excepted the poor in general, for it is now well known that they are very liable to this fever, both in the hospitals, and in their own houses, especially if they are situated in the middle of large manufacturing towns and cities ; but there is this to be said in favour of the Doctor, that it is above a century since he wrote this Treatise on the Puerperal fever, at a time when there was no hospital for lying in women in the British dominions, our manufactories were then in their infancy, and the diet and mode of living amongst the poor people, were totally different from what they are at this time,



tious matter being absorbed into the circulation, undoubtedly occasions a great inclination to putridity ; loss of appetite soon follows, and the stomach and duodenum being no longer distended with aliments, large quantities of bile are collected in the gall bladder, the cystic and hepatic ducts, and, by lodging there, soon acquire a putrid or putrescent acrimony.

When the woman is in labour, she is often attended by a number of her friends in a small room, with a large fire, which, together with her own pains, throw her into profuse sweats ; by the heat † of the chamber, and the breath of so many people, the whole air is rendered foul, and unfit for respiration \* ; this is the case in all confined places, hospitals, jails, and small houses, inhabited by many families,

† Dr. Thomas Cooper, speaking of the lochial fever, says, " This fever is most common, and also more fatal in the hotter months."

Compend. of Midwifery, p. 220. Lond. 1766.

\* It has been found by Dr. Stephen Hales (Statical Essays, Vol. 2, p. 324) that a person in health destroys two gallons of air in two minutes and a half, so as to render it unfit for respiration.

Dr. Percival informs me that a correspondent of his, (a gentleman distinguished for his knowledge of Natural and Experimental Philosophy) has lately discovered " That air which animals have breathed is in all respects the same with air in which animals have putrified. The original quantity is equally diminished in both cases ; which is found to be owing, in part at least, to the precipitation of the fixed air it contained ; and they are restored by the same process. One use of the lungs therefore must be to carry off a putrid effluvi-um, without which a living body might perhaps putrify, as well as a dead one,"

families, where putrid fevers are apt to be generated, and proportionally the more so where there is the greatest want of free air.

If the woman's pains be not strong enough, her friends are generally pouring into her large quantities of strong liquors, mixed with warm water, and if her pains be very strong, the same kind of remedy is made use of to support her. As soon as she is delivered, if she be a person in affluent circumstances, she is covered up close in bed with additional clothes, the curtains are drawn round the bed, and pinned together, every crevice in the windows and door is stopped close, not excepting even the key hole, the windows are guarded not only with shutters, and curtains, but even with blankets, the more effectually to exclude the fresh air, and the good woman is not suffered to put her arm, or even her nose out of bed, for fear of catching cold. She is constantly supplied out of the spout of a teapot with large quantities of warm liquors, to keep up perspiration and sweat, and her whole diet consists of them. She is confined to a horizontal posture for many days together, whereby both the stools and lochia are prevented from having a free exit. This happens not only from the posture of the patient, but also from the great relaxation brought on by warm liquors and the heat of the bed and room, which prevent the over distended abdominal muscles

cles

cles from speedily recovering their tone, whereby they are rendered unable to expel the contents of the abdomen, which lodging in the intestines many days, become acrid and quite putrid.

The lochia stagnating in the womb, and in the folds of the vagina, soon grow acrid, for it is well known that the mildest humours in the human body, if suffered to stagnate, become so, as soon as the air has access to them. These are in part absorbed by the lymphatics in the womb and vagina, and the effluvia from them help to make the air in the bed, and in the room, more putrid; this air in every act of inspiration is taken into the lungs, and is there again received into the circulation: Add to this that women are generally of a lax, seldom of a rigid fibre, owing in some measure to their periodical evacuations, to their sedentary, inactive, and domestic way of life, and likewise to their muscles being surrounded with a much larger quantity of cellular membrane, than those of men; hence also they arrive at their acme sooner than men.

Amongst the poor people who live in cellars, and upon clay ground floors, the air is still made worse by the dampness and closeness of their houses, and the want of clean linen, and cleanliness in general. Those who live in garrets are also in no better a situation, for the putrid miasmata of several

families inhabiting the lower part of the house, ascend to them, already suffering perhaps from the effluvia of a whole family in every single room, the putridity of which is farther increased, by the heat of the sun piercing through the covering of the house; nor is it to be wondered at that they are still in a worse situation in hospitals\*, where a number  
are

\* “ Il a regne pendant l’hiver de 1746 une maladie epidemique parmi les femmes en couche : M. de Jussieu a le premier observe cette maladie ; elle commençoit par le devoiement, ou par une disposition au devoiement, qui continuoit pendant la couche : les eaux qui accompagnent ordinairement la naissance de l’enfant, sortoient pendant le travail de l’accouchement ; mais apres ce temps, la matrice devenoit seche, dure & doloieuse, elle estoit ensee, & les vuidanges n’avoient pas leur cours ordinaire.

Ensuite, ces femmes estoient prises de douleurs dans les entrailles, sur-tout dans les parties qu’occupent les ligamens larges de la matrice ; le ventre estoit tendu, & tous ces accidens estoient accompagnez d’une douleur de tete, & quelquefois de la toux.

Le troisieme & le quatrieme jour apres l’accouchement, les mammelles se flettrissoient, au lieu qu’elles durcissent & se gonflent naturellement dans ce temps par le lait qui s’y filtre alors en plus grande quantite : enfin ces femmes mourroient entre le cinquieme & le septieme jour de l’accouchement.

Cette maladie n’a attaque que les pauvres femmes, & elle n’a pas ete aussi violente, ni aussi commune parmi les pauvres femmes qui ont accouche chez elles, que parmi celles qui ont ete accouchees a l’Hotel Dieu ; on a remarque que dans le moi de Fevrier, de vingt des ces femmes malades en couche a l’Hotel Dieu, a peine en echappoit-il une : cette maladie n’a pas ete si meurtriere dans le reste de l’hiver. Messrs. Col de Villars & Fontaine, Medecins de cet Hopital, nous ont rapporte qu’a l’ouverture des cadavres de ces femmes, ils avoient vu du lait caille & attache a la surface externe des intestins, & qu’il y avoit une serosite laiteuse epanchee dans le bas ventre ; ils ont meme trouve aussi de cette serosite dans la poitrine de quelques unes ; & lorsqu’on en coupoit les poudons, ils degorgeoient une lympe laiteuse & pourrie.

are crowded, not only in one house, but in one ward, where the disease is conveyed from one to another by the putrid miasmata lodging in the curtains, bed clothes, and furniture, and by the necessary houses, which are either contiguous to, or so near the hospital as to occasion a most disagreeable smell, and must of course convey that infection which cannot be more effectually communicated, than by the excrements.

This description may perhaps seem overcharged for a picture of that improved practice which is introduced by modern professors of the art; but upon a close examination, I believe it will appear that many of the most important errors do in reality prevail, and this I impute in great measure to the large share which nurses have in directing the management of lying in women, to whose interference  
practitioners

*L'estomac, les intestins & la matrice bien examinees, paroissoient avoir etc enflammes, & il est sorti, suivant le rapport de ces deux Medecins, des grumeaux de sang a l'ouverture des canaux de la matrice.*

*Dans plusieurs de ces femmes, les ovaires paroissoient avoir etc en suppuration."*

Hist. de l'Acad. Royale des Sciences  
l'an 1746, 4to. p. 160.

"I am well informed that this fever and obstruction occur more frequently in the lying in hospitals, than in private practice. What can this arise from but from the different states of air? This in my opinion is the cause; for though very great care is taken in those hospitals, yet as the apartments and furniture will imbibe some of the morbid effluvia, arising from the patients, the air must always be more or less tainted."

Johnson's Midwifery, p. 252.



practitioners must in some measure submit, though contrary to their better judgment.

Women have frequently many, and sometimes all of these difficulties to struggle with, even after the most easy deliveries ; but if there have been such violence used, either by instruments or by the hand, in the extraction of the child or the placenta, as to bring on an inflammation of the womb, these difficulties will still be farther increased. The patient may likewise be put upon her labour too soon, by endeavouring to dilate the os internum, or be too frequently teased with unsuccessful attempts to deliver her, or after the head is born, the body of the child may be delivered too suddenly, and too forcibly, without waiting for another pain, or giving the shoulders time to accommodate themselves to the different dimensions of the pelvis, the bad effect of which I will explain more at large hereafter.

In a few days after delivery the patient is perhaps seized with a shivering fit, and the nurse is surprised, as she protests she has not had the least waft of cold ; more clothes are heaped upon her : spirituous liquors, and hot spices, are given her, to throw off the cold fit, which most certainly increase the succeeding hot one. A warm room, plenty of clothes, and warm drinks are continued to throw her into a sweat, but have frequently a contrary effect, by increasing and prolonging the burning fit,  
which

which at last terminates in a most profuse sweat, continuing many nights and days without giving relief.

The cold fit sometimes, like the paroxysm of an ague, returns, but at uncertain periods, and at last ends in a continued fever; At other times no cold fit precedes the disease: It creeps on gradually, and first shews itself by putrid sweats, attended with a nausea, or by vomitings of porraceous matter, and a looseness. What the patient vomits is generally mixed with large quantities of bile of a dark colour. The stools are sometimes very copious and frequent, and so exceedingly putrid as to be offensive all over the house, and to convey infection to the whole family: At other times the patient is racked with a constant tenesmus, and with frequent motions to make water, accompanied with swelling, pain, and soreness in the belly, and with pains in the head, back, breasts sides, hips, and iliac region, with a cough and difficulty of breathing; there is commonly a wildness in the countenance, and the head seems hurried, and in some cases the face is flushed; the urine is voided often, with pain, and in small quantities, and is remarkably turbid.

The tongue at first is white and moist, and soon after is covered with a white fur, or else it is dry, hard, and brown, and afterwards covered with a brownish fur: a brown or blackish sordes, the consequence

sequence of putrid exhalations, adheres to the edges of the teeth. The patient usually nauseates all kinds of food and drink, except what is cold and acidulated. The pulse at the beginning of the disorder is sometimes very little altered, only something fuller and quicker, but as the disorder advances, it never fails to grow quick, small, and creeping, and the patient complains of great anxiety, and oppression about the præcordia, attended with sighings, lowness of spirits, lassitude and great debility. The quantity of the lochia is frequently not at all diminished, at other times it is very much lessened: What flow are sometimes very foetid, and in some cases this discharge is totally suppressed.

The breasts in some grow flaccid, the milk abates in quantity, and if the disorder be not soon removed, is entirely lost; but this is not always the case.

If the hot regimen be continued, with vinous spicity caudles, hot alexipharmic medicines, volatile alkalaceous salts and spirits, opiates, and a close room so as to keep the patient in a perpetual sweat, vibices\* or petechiæ appear, or eruptions either of the white  
or

\* Cooper speaking of this fever about the fourth day, says, "Now if not before, some violent pains come on, in the arms, and thighs, succeeded by a discolouration of the skin, occasioned by the blood corroding and stagnating in the vessels."



or red kind, or both, first upon the neck and breasts, afterwards extending themselves all over the body, one crop succeeding another till the patient is worn out ; but they give no relief, are not in any way critical, nor is there indeed any regular crisis in this disorder, except the looseness.

The patient is generally easier after every stool, and they seem to give relief. The stools at last are discharged together with the urine, involuntarily ; colliquative sweats, hiccups, convulsions, &c. come on ; and death, which happens sometimes sooner, sometimes later, closes the scene. There are some who have died so early as within twenty four hours after the first attack ; but the eleventh from the first seizure, is said to be the day on which the patient most commonly dies, though others have lived many days longer without recovery.

This disease was well known to Hippocrates\*, and to numberless authors who have written since his time, and has been stiled either epidemic†, malignant,

\* Hipp. de Morb. Mulierum, lib. 1. sect. 5.

—on Epidemical Diseases, case 4 and 5.

“ † During the prevalence of epidemic fevers, the recovery of women in child bed is much more precarious than in healthy seasons. This is observable in every sphere of life, but for obvious reasons, more remarkably in lying in hospitals ; it has been taken notice of by the industrious Dr. Sydenham, and by Tho. Bartholine, and must undoubtedly have happened invari-

malignant, putrid, or inflammatory, and by some a compound of all four. It is generally malignant and putrid, when suffered to run its course, and frequently at some seasons epidemic, and in some situations may properly be said to be endemic. Nay, if the womb has been lacerated, or has received any injury in labour, it is sometimes undoubtedly compounded of all five. Some have represented it as entirely owing to the milk, some to an inflammation of the womb †, and many to a suppression of the lochia ;

bly in all ages of the world, though it is now better understood in this country, since some of the most ingenious of our physicians have devoted their time chiefly to the study and practice of midwifery, and the management of those diseases with which it is more particularly connected."

Millar on the prevailing disorders of Great Britain, pt. 3, sect. 1. p. 332 of the puerperal fever.

" Nonnunquam post lochiorum suppressionem in febrem incidunt puerperæ, quæ vel in earum quæ tum grassantur epidemicarum castra transit, vel ab ea sola pendit origine."

Differt. Epist. ad. Gul. Cole, M. D. Sydn. op. p. 532.

† Tissot in his *Avis au Peuple*, Eng. edit. by Kirkpatrick, p. 371, seems to think that this disorder is an inflammation of the womb, and he mentions an extraordinary circumstance not taken notice of by other authors, viz. that the belly turns black. Sect. 370, he says, " The inflammation of the womb is discoverable by pains in all the lower parts of the belly ; by tension or tightness of the whole belly ; by a sensible increase of pain on touching it—a kind of red stain or spot that mounts to the middle of the belly, as high as the navel, which spot as the disease increases turns black, and then is always a mortal symptom ; by a very extraordinary degree of weakness ; an astonishing change of countenance ; a light delirium or raving ; a continual fever, with a weak and hard pulse ; sometimes incessant vomitings ; a frequent hiccup ; a moderate

lochia ; some have ranked it amongst hysterical\* disorders, and others have called it only a symptom, but all have agreed in its fatality §, and the uncertainty of every method of cure, both in the rich, and in the poor, who all acquire this disorder from similar causes, though by means somewhat different. I am informed that the appearances after death, are those of inflammation and gangrene in the intestines, or some of the abdominal viscera ; sometimes in the uterus|| ; and in some cases, when the disease

erate discharge of a reddish stinking sharp water ; frequent urgings to go to stool ; a burning kind of heat in the urine ; and sometimes an entire suppression of it."

\* "Femina xxx. annorum temperamenti sanguineo-melancholici, hystericis passionibus in puerperio, & extra illud, sæpius obnoxia, tertium gravida, gestationis tempore nec venæ sectionem admisit, nec exquisitè servavit præcepta diætetica. Primis post partum diebus non bene purgata est utero : Sed de dolore lumborum, torminibus ventris, alvo adstricta, & somno per aliquot noctes inquieto conquerebatur. A practico, quem in consilium vocavit, validiores essentia ad pellenda lochia fuerunt datæ ; & ad alvum aperiendam uncia dimidia salis amari Sedlicensis in aqua simplici soluta est oblata. Inde auctis torminibus, nec facta per alvum, nec per uterum excretionem, converso sanguinis versus superiora motu deliravit, & accedentibus convulsionibus extincta est."

Hoffman, Tom. 3, sect. 1. cap. 5,  
obs. 10 de malo Hystérico,

§ "As the disease which is the subject of this Essay occasions the death of much the greater part of women who die in child bed, &c."

Denman on the Puerperal Fever, p. 1.

|| Pouteau in his *Mélanges de Chirurgie*, p. 182, upon opening two women who died of this fever in their lying in at the Hospital at Lyons, says,

"En

case has been of long continuance, it has extended to the lungs, and all the neighbouring parts.

In the cavity of the abdomen is generally found an extravasated serum, mixed with purulent matter, and an exudation appears upon the surface of the intestines, gluing them to one another, and to the peritonæum. There is no wonder that these appearances should be observed, more particularly in the abdomen, as the very acrid putrid stools voided in this disorder must naturally tend to inflame, and to give a putrescent disposition to the intestines by transfusing their coats, or being absorbed into their small vessels ; and we may conclude, that the same causes which produce putrefaction in the abdomen of a dead body \*, sooner than in any other  
part,

“ En ouvrant ces matrices il se presenta dans l'une & dans l'autre une circonstance qui merite attention ; la tunique interne de ce viscere etoit noire & molle : la matrice dans son epaisseur avoit une rougeur livide & vraiment gangreneuse.”

\* Sir John Pringle gives us the following note, which he informs us he had from Doctor Hunter. “ That the abdominal viscera and muscles corrupt the soonest of all parts in the body after death, wherefore it is a rule with anatomists to begin their dissections and demonstrations with those parts which first become offensive. That the quick putrefaction here may reasonably be ascribed to the putrid steams of the fæces with which all those parts are more or less impregnated, hence too the cause of the speedy corruption of the psoas and iliacus internus in comparison of the muscles in the extremities. That next to the abdominal viscera and adjacent parts, the lungs are commonly soonest tainted, whether from the air stagnating in the vesiculæ bronchiales, or some remains of the perspirable matter that may act as a ferment, and hasten the putrefaction. For whoever tries the experiment of compressing the thorax in a body that has been dead some time, will be sensible

part will also operate in the same manner in the living body, wheresoever there is a general putrefactive tendency ; nor need we be surpris'd that the womb itself should be found in a gangrenous state when we consider the great distension it has undergone, and that it has afterwards suddenly collaps'd, and has been kept some time imbued with the stagnating, acrid, or even putrescent lochia.

It does not appear that this disorder can be ascribed to simple inflammation. The patients complain chiefly of a tension, foreness and tenderness of the lower part of the belly, and are not constantly affected with those excruciating pains which generally attend common inflammations of the bowels ; but it frequently manifests itself to be of a malignant kind, occasioned by absorption of human effluvia, of acrid bile, and of a putrid colluvies through the whole intestinal canal and organs of generation.

Scarce any two authors have described this fever alike, and yet I believe their descriptions have truly been from what they have seen, but these different appearances have been probably owing to a variety of

sible of the putrid state of the lungs by the offensiveness of the air that is forced out of them."

On the Diseases of the Army, Appendix, p. 84, 4to. edit.



of management, and to a difference in the constitutions of the patients.

Though a true puerperal fever is originally caused by a putrid atmosphere, or too long a confinement of the patient in an horizontal position, producing an absorption of putrid or acrid matter, and is not occasioned by either the heat of the air, or any hot things taken internally; yet it may be much aggravated by these; and many of the symptoms frequently attending it, are entirely occasioned by the hot air and a hot regimen. For instance, if a woman of a strong constitution, and of a plethoric habit of body, be seized with this fever, and spirituous liquors and hot spices be given her, she will have a strong hard pulse, and the symptoms of inflammation will run so high as to indicate the necessity of copious bleeding; and when the fever is farther advanced, a delirium, subsultus tendinum, &c. will come on. But if the patient be of a more relaxed habit of body, and be kept sweating in bed in a warm room, by warm liquids, eruptions will appear upon the skin; and if a woman subject to hysterical complaints be seized with this fever, and have any large evacuations either naturally, or procured by art, a train of hysterical symptoms will succeed. And lastly, it must be observed that though all the symptoms here enumerated have been seen in different patients, yet it must not be  
imagined

imagined that all of them ever occurred in the same subject\*.

\* The opinion of the royal medical society of Paris, held at the Louvre, the 6th of Sept. 1782, as given in the report of a memoir of Mr. Doucet on the method of treating the puerperal fever; which was, in 1783, translated into English by Dr. Whitehead, physician to the London Dispensary, with the addition of many valuable notes, confirms the theory I have endeavoured to advance on this subject. “ But without entering into long discussions  
 “ on this subject, which would require deeper researches than the time and  
 “ limits of this report will permit, we will content ourselves with observing,  
 “ that all the descriptions we have of this disease, which are numerous, pre-  
 “ sent it under two principal characters, that is, as a highly inflammatory,  
 “ and as a putrid disease. The inflammation is announced by the tension  
 “ and pain of the belly; and the putridity is evidently marked by the  
 “ weakness and smallness of the pulse, the prostration of strength, and the  
 “ excessive fœtid evacuations. The more the putrid character prevails, the  
 “ more rapid and dangerous the disease appears in general. The observa-  
 “ tions of Johnson, Johnstone, and De la Roche, represent it as being more  
 “ of an inflammatory nature, and at the same time not so alarming; those  
 “ of White, Leake, and Slaughter, as the most putrid and most fatal disease.  
 “ Of four women who were attacked with this disease in the Hospice de  
 “ Vaugirard, three had a weak pulse, remarkable prostration of strength,  
 “ and extremely fœtid evacuations; and all three died. The fourth was  
 “ more robust, and the symptoms were so violent as to require several bleed-  
 “ ings, and she was the only one who happily recovered. This prostration  
 “ of strength, therefore, which characterises the putridity, is one of the  
 “ worst signs of this disease. It is chiefly in hospitals that it assumes this  
 “ character, and it has no where been either so rapid, or so generally fatal,  
 “ as in the Hotel Dieu, for some years past. Does it in these cases partake  
 “ of the nature of the hospital fever? This is the sentiment of Mr. White.”  
 Vid. Whitehead’s Transf. p. 31.



## CHAP. II.

### ON THE MILIARY FEVER.



THOUGH medical history does not with absolute certainty inform us whether the Miliary Fever was observed amongst the ancients, yet there is the greatest probability that it was, from several passages in Hippocrates\*, Celsus,

\* “ Octavo sudor frigidus per omnia membra diffusus est, cum pustulis rubentibus, rotundis parvis, varis non absimilibus, quæ permanebant neque abscessum faciebant.

Hipp. de Morb. vulg. lib. 1. sect. 3. æg. 2.

Per magnos æstus affatim & continenter compluit, idq; ab austro magis. Sanies quidem plurima cuti subnascebatur, quæ intro conclusa dum incalesceret, pruriginem excitabat. Deinde vero in pustulas erumpebat iis affines, quæ in ambustis fieri solent.

Hip. de morb. vulg. lib. 2. sect. 1.

In febribus autem æstivis circa septimum, octavum, & nonum diem, aspredines quædam miliacæ, culicum moribus fere similes, quæ tamen non admodum pruriebant, in summa cute subnascebantur & ad judicationem usque perdurabant.

Ibid. lib. 2. sect. 3.

Euphranoris



sus †, Ætius ‡, Haly Abbas §, Fernelius ||, Franciscus Valeſius\*, Petrus Forreſtus †, Ballonius ‡, and Sen-  
nertus.

Euphranoris filio, puſtulæ culicum morſibus non abſimiles eruperunt, ve-  
rum pauco tempore duraverunt, poſtridie febris invaſit."

Ibid. lib. 5.

† De puſtularum generibus.

At puſtulæ maxime vernis temporibus oriuntur. Earum plura genera  
ſunt. Nam modo circa totum corpus partemve aſpredo quædam ſit, ſimilis  
his puſtulis, quæ ex urtica, vel ex ſudore naſcuntur; exanthemata Græci vo-  
cant, æque modo rubent, modo colorem cutis non excedunt. Nonnunquam  
plures, ſimiles varis oriuntur, nonnunquam majores. Puſtulæ, lividæ ſunt, aut  
pallidæ, aut nigræ, aut aliter naturali colore mutato: Subeſtque illis humor.  
Ubi hæ ruptæ ſunt, infra quaſi exulcerata caro apparet. Phlyctænæ helcodes  
Græci nominantur. Fiunt vel ex frigore, vel ex igni, vel ex medicamentis.

Celfus, lib. 5. cap. 28.

‡ Fiunt etiam aliquando puſtulæ rotundæ inequales, ſubalbidæ aut ſubru-  
bræ, cum elevatione caronis.

Ætii Serm. 5. cap. 129 De Puſt. in feb. cur. ex Herod.

§ Haly Abb. Reg. Diſpoſ. Theoric. lib. viij. chap. xiv.

|| Exiguæ & aquoſæ puſtulæ ſunt hidroa, id eſt ſudationes. Emergunt re-  
pente ſparſim toto corpore, ſed frequentius in manibus pedibuſque, milii  
magnitudine, aqua plenæ, ſine rubore, ſine ullo dolore. Fiunt enim ex ſu-  
doribus ſub epidermide coercitis, per cujus ſpiracula hi digeri minime poſ-  
ſunt: Unde a quibuſdam ſudorum papulæ nuncupantur.

Fernelii univerſa med. lib. 7. cap. 5. p. 242.

\* Franciſcus Valeſius in Hipp. de morb. vulg. com. lib. 2. ſect. 3.

† Petrus Forreſtus obſ. 59. p. 205. lib. 6. vol. 1. De Purpura intus re-  
percuſſa. Obſ. 60 De Purpura papulas rubentes habente. Obſ. 61 De  
Muliere ſudamina habentē, & a medicaſtris male tractata unde tandem mors  
ſubſecuta eſt.——

‡ Antequam calidis iſta invaſiſſet viris & majoribus apparebant maculæ,  
echthymata, Miliareſ puſtulæ et cætera, id genus idque æſtate maximi, ſed  
nullum id adſerebat periculum.

G. Ballon. Epid. & Eph. lib. 2. p. 202.

Conſtitutio autumnalis. A. D. 1577.

nertus§. It is evident that it was known to Riverius||, who does not speak of it as a new disease. But we have no accurate description of it till the middle of the last century \*, when it was first observed in the

§ Verum cum Exanthematum genus duplex sit, unum, quod colorem cutis saltem mutat, ut sit in febribus petechialibus, alterum in quo tubercula quædam in cute crumpunt, pustularum & papularum nomen non utrique, sed posteriori saltem generi congruere videtur, et papulæ ac pustulæ saltem tubercula significant, in quibus humor aliquis continetur.

Senert. Tom. 3. lib. 5. p. 1. cap. 22. p. 771.

|| Exanthemata a maculis purpureis differunt; ex eo quod maculæ ad qualitates mutatas ipsius cutis, cum nullo modo emineant; exanthemata vero ad tumorum genera referuntur. Sunt enim varorum instar aliquando alias verò minora, granis milii simillima. Aliquando rubra sunt a sanguine genita; aliquando alba, a pituita, vel fero; flava, a bile; punicea, a bilis exusta; livida vel nigra, a maxima exustione, vel mortificatione. Quædam symptomaticæ, quædam critiche, quædam medio modo erumpunt. Alia exsiccantur simpliciter, alia suppurantur, alia ulcerantur.

Laz. River. Prax. Med. lib. 17. sect. 3.  
cap. 1. de febre pestilenti.

\* Gottofredus Welschius Lipsiensis, Chirurgiæ & Anatomicæ Prof. pub. Hist. Med. Puerperarum morb. continens, qui ipsis *der Frierfil* dicitur & (Febris est maligna Miliaris) Lipf. 1655 Christ. Johannis Langii Prax. Med. cap. 13. de febribus sect. 9 de Purpura, & tom. 3. p. 351.

Georg. Hieronym. Velsch. curat. Med. Decad. i curat. ij Febris Coccinea in Puerpera.

Carol. Rayger. in Mis. natur. cur. ann. tertii de febre malign. cum Exanth. Miliar. obs. 281. p. 496.

Mich. Etmulleri oper. Med. Theoret. Pract. tom. 2. cap. 17. art. 3. p. 1047—De Purpura, seu febre Miliari Puerperarum.

Jos. Nichol. Pechlin, obs. Phys. Med. lib. 2. p. 249, obs. 19 Exanthemata cum, & sine febre,

the city and neighbourhood of Leipzig in Germany. It began amongst puerperal women without distinction of age. It soon spread itself all over Germany, and proceeded to other countries. The sagacious Sydenham\*, observed it first in England in Feb. 1685. According to his account it began in a thaw, after the breaking up of a frost, which, though severe, had not continued so long, nor had been so intense as that of the preceding year.

A variety of Authors || who have written on this disease have differed greatly, not only with regard  
to

\* Sydenham. Sched. Monit de novæ febris ingressu, p. 643.

|| Sir David Hamilton de febre miliari, Boettigeri dissert. de purpura rubra epidemic. J. White, M. D. de recta sanguinis missione, or new and exact observations of fevers. Sir Richard Blackmore on the plague. Juncker. conspect. Medicin. tab. 74. p. 596. Allen. Synops. art. 1497, &c. Fuller on eruptive fevers, purple fever, p. 130. Miliary fever, p. 157. Hoffman de febre purpurata rubra & alba miliari, tom. 2. sect. 1. cap. 9. p. 68. James's dict. art. purpurea. Huxham's Essay on fevers—On the Ulcerous Sore Throat—Obf. de aere. Mead Monita Med. Levret L'art des accouch. Van Swieten's Comment. or Boerhaave's Aph. sect. 723, 982. Ant. de Haen tract. de febrium divisionibus. Dr. Storck's Bienn. Med. Heister's Observ. obs. 183, 356, 475, 583.—Compend of Physick, p. 125, 424. Home's Medical Facts. Pringle on the Diseases of the Army. 4to edit. Edinburgh Essays, phys. and lit. vol. 2. Sir Richard Manningham on the Febricula. p. 116. Allionius Tract. de Miliarum progressu. Licutaud. Synops. Univer. Pr. Med. *Febris Miliaris Puerperarum*, p. 476. J. Fordyce Hist. Feb. Miliaris. The Cure of the Miliary Fever by a subject of Mithridates, king of Pontus. Baker's Obf. on the present epidemical Fever. Glas's Commentaries on Fevers, p. 170. Denman on the puerperal Fever, p. 48. Johnston's Midwifery, p. 366. Smellie's Midwifery, vol. 1. p. 420. Hafenorhl Hist. Med. Morb. Epidemic, p. 5. Haller Physiol. vol. 2. p. 399. English edit.

by

to its nature and cause, but in respect to its symptoms and method of cure. Some have asserted that it is a fever *sui generis*, and that the eruption is critical ; others that it is a creature of our own making, and that the eruption is produced entirely by the use of too hot medicines ; others again are of opinion, that the miliary eruption is critical, but allow that an eruption similar to this may be produced by sweating, yet do not give us any criterion how they are to be distinguished ; others likewise say that this disease is not always terminated by any one sort of crisis. Some say that the eruption is red, others that it is white or pearl coloured, crystalline or vesicular, and that the red eruption is only a simple rash. Some mention two sorts, red and white, and when both appear together, call the disease compound ; an appellation which others apply when it attacks pregnant or puerperal women, or is complicated with other disorders. Some allege that it chiefly attacks weak and exhausted persons, some that it attacks those of a bilious constitution, others that it seizes all indiscriminately.

#### Authors

by Mihles. Med. Obs. & Inq. vol. 4. p. 29, in a paper on the Seltzer water, by Dr. Brocklesby. *Commercium literarum* for the year 1735. Buchan's Domestic Medicine, p. 244. 574. Lobb's Practice of Physick, vol. 2. p. 141. Brooke's Practice of Physic, vol. 1. p. 181. *Mem. de l'Acad. des Sciences*, l'an. 1747. Macbride's Experimental Essays, p. 192. Lind's papers on Fevers, p. 86. 106. Etherington's general Cautions in Fevers, chap. 5. p. 50. Dr. Piniard's Account of the Epidemic Disease which raged at Rouen in 1753. Dr. Wall's Account of the Ulcerated Sore Throat, *Med. Museum*, vol. 1. p. 119.

Authors have varied much as to the time when the eruption appears, some have perceived it as early as the fifth day, some on the seventh, or eighth, others on the tenth or eleventh, and others again as late as the fourteenth, fifteenth, and sixteenth, and even on the twenty eighth, as I have been informed ; whilst some have declared that no precise time can be ascertained for its appearance. However, they seem to agree in some particulars ; as,

That puerperal women are peculiarly liable to it.

That it is a disease of a malignant or putrid tendency.

That the eruption is promoted by sweating in bed, and is the most plentiful on those parts of the body which have sweated the most.

That the pustules at last come out with a gentle and continued, or a copious and profuse sweating ; but that these profuse sweats are not critical, whatever the eruption may be.

That patients are subject to more crops than one.

That miliary eruptions have however been known at different times to accompany inflammatory fevers, and most of the disorders incident to the human body.

That a happy event does not depend either upon the largeness of the quantity, or the earliness of the



eruption ; but that, on the contrary, the fuller and the earlier the eruption is, the greater is the danger.

Allionius, a Physician of eminence at Turin, has treated of this disorder more fully than any other writer ; and from his account the following circumstances are extracted, which prove the affinity of the miliary fever with putrid diseases in general.

“ It may be traced to the same causes which produce putridity in general, and the diseases consequent upon it.

“ A miliary eruption often accompanies putrid and other eruptive fevers.

“ Though women in child bed are generally first, and more universally attacked by it, it is not confined to them alone.

“ Most things that are useful and noxious in putrid fevers, are the same in this.”

If we next consider the *symptoms* of the miliary fever, we shall still find a great similarity with those of other putrid diseases ; inasmuch that there seems to be no pathognomonic sign of this disease, except the eruption be allowed to be one. The great anxiety, vast oppression, sighing and dejection  
of



of spirits, so much insisted on by all authors, are the pathognomonic symptoms of all putrid diseases in general. They are the attendants of the low nervous, the putrid malignant, and of all petechial fevers ; and so indeed is the thrush, looseness, pale urine, and the quick and weak pulse.

Some have said that the tension and tenderness of the abdomen are pathognomonic symptoms of the puerperal fever, but others have found them in the miliary\*. The rest of the symptoms, are common to all fevers whatever. The diseases, or rather the symptoms, which are said to succeed the miliary fever, are hectic heats, loss of appetite and of spirits, and swellings of the legs, feet, and thighs ; but these are nothing more than what follow other putrid fevers.

Those who have had this fever, are particularly liable to returns of it during their whole lives ; owing most probably to the skin being over relaxed, and its tone destroyed, by a too hot and forcing treatment.

To

\* " The tension and tenderness of the abdomen have been laid down as pathognomonic symptoms of this disease. I must confess my doubts in this point, for I have met with them early in the month of child bed, the patient being feverish at the same time, and yet as appeared to me, the complaints arose only from an accumulation of indigested aliments in the primæ viæ ; since by giving a purgative, which brought away a large quantity of very putrid fæces, they were entirely removed. Besides, they are to be found in a miliary fever, as will be shewn in the next chapter."

To what has been already said I must beg leave to add my testimony that I have frequently seen in puerperal women, miliary eruptions both of the red and the white kind, without any fever supervening, and totally unattended with danger; and I have seen all the symptoms of the miliary fever (as they are generally described by authors) except the eruption, and yet the disorder has terminated happily, and in a short time, without that, or any other particular crisis.

Some years ago this doctrine might have been treated as chimerical, but now I do not doubt I shall easily gain credit, as every inoculator knows that even the small pox itself, in which, of all eruptive fevers, the eruption seems most critical, may be happily got over with little or no eruption, and at the same time the patient be secured from ever having the disorder again.

That the miliary fever, like many other putrid fevers, may be generated by ill management§, I have not the least doubt; and the relation of the following incident may help to prove the assertion.

When

§ Doctor Shebbeare, though no friend to the cool regimen, says, "The most effectual way is to support the vital heat by the gentlest means, and in an equable manner, otherwise the miliary eruption may be rather a symptom of the Physician than of the disorder, as it is to be feared that some, through mistaken practice, have discovered a way of making miliary fevers, and may be called a kind of manufacturers of that disease; increased sweating, and long continued heat, often exhibit that phænomenon, where no sickness attends,"

When I began to practise midwifery, a midwife (since dead) had for a long time been in possession of great practice amongst all ranks of women, and in other respects was tolerably successful; but a remarkable number of women under her care were affected with the miliary fever, which proved fatal to many, particularly the wives of several of our principal tradesmen, and became so alarming and notorious, both in this neighbourhood, and in distant parts of the country, as to acquire the name of the Manchester fever.

Her method was to keep her patients very close and warm, so as scarcely to admit a breath of air into the room, and to confine them many days sweating in a bed in a horizontal position. At the same period of time, and in the same town, other practitioners who pursued a different plan met with no such fever.

My Father informed me that he attended the third wife of a gentleman who had lost his two former wives by miliary fevers in their first lyings in. This lady being much alarmed at the fate of her predecessors, was during her confinement continually upon the watch, to see if she could discover an eruption, which at last she did. This discomposed her very much. She made a large quantity of pale urine. Both my Father and another Physician who was afterwards called in,

in, assured her that it would not be attended with either fever or danger, and that if she would keep up her spirits, and observe a cool regimen, it would be of no consequence, and accordingly she soon recovered—How far fear might operate in this case I leave the reader to judge. My Father moreover said that this was the only case of a miliary eruption which he had met with in a child bed woman, where he had attended from the time of her delivery.

Several ladies who have had dangerous miliary fevers during their former lyings in, and who have been in full expectation of them again, upon the same occasions have, by observing the directions I have laid down in this Treatise, happily escaped any kind of child bed fever.

I have frequently seen miliary eruptions attend the symptomatic fevers of persons who have undergone some principal operation in surgery, though at that time they seemed to be in a perfect state of health, (excepting the local complaint, for which they underwent the operation) and no other reason could be assigned for this eruption, but the patient's being of a relaxed habit of body, and sweating in bed. I have often seen miliary eruptions at different periods, and under different circumstances, but I cannot, upon the strictest inquiry, find that a miliary eruption was ever produced without a sweat, either

in a greater or less degree; and yet we know that most other eruptions will frequently come out without a sweat, as the small pox, measles, scarlet fever, chicken pox, the rash which attends the ulcerated sore throat, and many other kinds of eruptions. I have often observed that the miliary eruptions come out first, and there is the greatest quantity of them in those parts which are the closest covered, especially if covered with flannel.

\* A very ingenious Physician at Chester informed me, that the miliary fever had been generally imagined to be endemic in the city and neighbourhood for thirty years before he resided there, and had carried off numbers of the inhabitants; that the fever was frequently of a long duration, that he knew one person who recovered after having successive crops of miliary eruptions for three months. That another Physician of the place had informed him, that he had a patient who lay ill of the same fever for six months, and died of it at last. That he had known the miliary eruption often to accompany the rheumatism, and many other fevers, but from observing

a

\* The same gentleman has favoured me with the following note. "I have frequently seen miliary eruptions unattended with either fever or danger, and have had patients attacked with fevers of the low nervous kind, sighing, oppression about the præcordia, a propensity to sweat, and other symptoms usually preceding miliary eruptions, and at a time and place where miliary fevers were common; yet by a cool regimen, and guarding against sweats which appeared rather to be symptomatic than critical, the patients recovered without any miliary eruption."



a different method of treating fevers in general, he was fully persuaded that this was a fabricated symptom, and never had seen it evidently critical.

The testimony of Dr. De Haen, of Vienna, is so important, so striking, and coincides so intimately with the doctrine I mean to establish, that it is with great pleasure I quote the following passages from his works. \* During the six years in which he had been Physician to a hospital that always contained a large number of fevers, he had only seen miliary or petechial eruptions three or four times as the primary disease, and once as a supervening symptom. If this fact be compared with innumerable cases of miliary and petechial eruptions in the *Biennium Medicum* of Dr. Storck, who attended another hospital in the same city—the excellent effects of cool treatment will be eminently conspicuous.

In the same place he allows that in private practice he sometimes met with epidemic miliary eruptions, but these not often.

He gives seventeen cases of petechial and miliary eruptions, most of the latter : They are all brought to prove that these eruptions are not critical, that they arise sometimes from infection, that the blood is often fizy in these cases, that in some cases they are produced by close, bad air, and sweating, and that



that the bark is an excellent remedy in these eruptive fevers†.

Forty pages are employed in confuting his adversaries concerning the cause, &c. of miliary and petechial eruptions. He asserts that hot medicines, regimen, and close warm rooms, are the causes that these complaints are so frequent at Vienna—that they arise sometimes also from miasmata, or many patients lying in the same room\*.

He quotes many authors to defend his opinion against sweating‡, and hot medicines, especially Sydenham.

From

† *Ægri ergo numero 17 spatio 6½ annorum Petechias, aut Miliaria, aut utrumque, in nosocomio practico habuerunt, adeoque quinque circiter omni biennio. Pars media horum, exanthemata, antequam ad me adferrentur, jam habuerant; pars altera iisdem in nosocomio practico correpti sunt; ergo inibi spatio trium annorum, exanthemata hæc quatuor duntaxat ægris eruperunt. Omnium vero duo tantum fuere, quibus id sponte contigerit; reliquis 15 aut contagium, aut pravum regimen, medendive methodus, aut combinatæ hæ causæ, exanthemata produxere. In nemine vero illorum ea critica fuisse, ipsa cujusque morbi historia abunde evicit.—Concludo, si plerisque ægris meis, citra exanthemata, integræ contingant, felicesque crises; tunc exanthemata illa, aliis medicis adeo frequentissima, critica utique appellari non posse.*

Vol. 2, Cap. 1. p. 13.

\* *"Spatio decem fere annorum 24 homines exanthematici in nosocomio nostro fuere: Octo scilicet exanthemate petechiali, quos inter cum variolis una; xi solo miliari; V utroque; eosque inter una cum pessimis variolis, affecti: Horum nemo criticæ eruptionis notam sustinuit."*

Vol. 2, Cap. 1. p. 395.

‡ *"Cramer, pluries mihi narravit, dum plura millia Borussorum captivorum anno 1757 & 1758 suæ curæ demandati essent, inter 300 eodem tempore,*

*acute*

From the foregoing observations the following inferences may, I think, be deduced :

1. The miliary eruption of child bed women is frequently a symptom attendant on fevers, caused by human effluvia, and by sweating; and never appears without a sweat preceding it.

2 The precise time for the appearance of the eruption, cannot with tolerable certainty be fixed, it being common for one crop to be succeeded by more, and even sometimes to appear without any fever attending, or succeeding; and, as by removing the disease in its early stage the eruption may be totally prevented, it cannot be called critical.

3. The cooling and extinguishing method of cure (as it is called) cannot prove prejudicial in the early stages

*acute ut plurimum, laborantes, vix quatuor aut quinque exanthemata passos esse; illos vero quatuor vel quinque, aut nimium tectos, aut arcte conclusos se reperisse, antequam sibi demandarentur : Leuca autem a se distanti pago, ubi ab initio morbi calida methodus in usu erat, vix ægrotasse quosquam, qui exanthemate non macularentur : A militibus in incolas contagium transisse ; pluresque, una cum medico suo, exanthematum genitore, mortem occubuisse."* p. 421.

*Miliaria hoc anno in nosocomio nulla. An quod extincta Viennæ ? Minime, sed quod eadem non fabricemus.*

*Tom. 3. p. 43. Cap. iij. de Miliaribus 1765.*

*Transit, cum bono Deo iterum, pro more, annus Academicus sine miliaribus, aut petechiis ; cum in nosocomio, tum in urbe, & suburbiis apud ægros qui mihi ad consilia vocato, obtemperarunt in toto regimine in abstinentia a medicina, & præsertim in quotidiana lecti refectione.*

*Cap. xi, p. 233. Impr. A. D. 1768.*

stages by checking the eruption, if at the same time it removes the cause of the disease itself.

4 Puerperal women are not subject to this disease from any other cause, but that of their being in a state much inclined to putridity, attended with a relaxation of the skin, from sweating in bed.

5. Therefore as the miliary eruption is never produced without sweat, and as neither the one nor the other can be said to be strictly critical, may we not conclude that the eruption is occasioned by the cuticular secretions being increased by warmth and relaxation, and of course rendered more acrid, so that by lodging upon the skin, and communicating with the external air, they must soon acquire a putrid state, even if the patient had no signs of putrescency before ?

In my last edition, I here added some annotations from a manuscript copy of Dr. Cullen's lecture on the miliary fever, as taken down by Mr. Bew, a very ingenious apothecary in Manchester. At that time it gave me no small satisfaction to find that my ideas of this fever corresponded so nearly with those of a man, whose great abilities, both as a professor and practitioner, have raised him to the highest degree of reputation, and who, from a very extensive practice, has gained great experience : I am

happy to find them since confirmed by the doctor's late publications on the subject, in the First Lines of the Practice of Physic, vol. 2. p. 100; and in the second volume of his Methodical Nosology\*. I must also here return him my best acknowledgments, for the handsome manner in which he has spoken of me in the latter of these publications.

\* Speaking of the miliary fever, he says, "*Quod nunquam idiopathicus sit, præter opinionem medicorum, a medio seculi decimi ad hunc fere diem, omnium, et contra sententiam medicorum hujus ævi, quorundam spectabilium, affirmare non ausim; sed cum experientiam in hæc re sæpe fallacem, et medicos plerosque imitatorum servum pecus fuisse noverim, dubitare cogor; et, utcunque sit, morbum miliarem plerumque symptomaticum fuisse, ex observantia propria, per multos annos frequenti, certo novi. Nunquam contagiosam, nec manifesto epidemicam, quibusdam licet temporibus solito frequentiore, vidi. Morbis febrilibus quibuscunque, tum inflammatoriis tum putridis, aliquando adjungitur; in nullis tamen, nisi regimine calido et sudoribus præeuntibus, ortum, & in pluribus regimine temperato, et sudoribus vitatis, morbum, alias expectandum, prorsus vitatum observavi, &c.*"

Vid. Synops. Nosol. Method. vol. 2, p. 140.



## C H A P. III.

## OF THE MILK FEVER.



THE PROXIMATE CAUSE of the milk fever is an accumulation of milk in the breasts, so as to occasion considerable tension, tumefaction, pain, and heat ; and if a degree of force be used to extract the milk at a time that the breasts are so tense and tumefied, inflammation and fever will be the consequence. The tumefaction will end, either in resolution or suppuration, which may happen in the glandular or adipose parts ; this will be preceded by pains in the head, in the breasts, and under the arms, by irregular shiverings, thirst, inappetency, heat, and quick pulse ; the matter will either find its way externally, or will be absorbed, and produce hectic symptoms. I never knew it terminate in gangrene, and seldom in schirrus, except from mismanagement.

THE REMOTE CAUSES may be many and various; as cold, which constricts the diameter of the vessels, and renders them impervious : plasters ; spirituous, or hot applications to drive back the milk ; a hot room ; too many clothes ; error in diet, either in quantity or quality ; violent efforts to draw out the nipples from the breasts, when they are in such a faulty state as to render this difficult ; and too sudden, or too early a stoppage of the blood from the uterine vessels, which, by the anastomosing of the epigastric arteries, fills the internal mammary arteries too suddenly, before the lactiferous tubes are become sufficiently pervious.

THE PREDISPOSING CAUSES of the fever are such a firmness and imperviousness in the lactiferous tubes, in an irritable habit of body, as to impede and obstruct the flow of milk into the breasts, whence also it is always most violent in the first lying in.

The small flat nipple which lies buried in the breast is generally occasioned by the tight dress, which has for some centuries been so constantly worn in this island by the female sex of all ages, and of almost all ranks, the most laborious and necessitous alone being excepted. This dress, by constantly pressing upon the breast and nipple, reduces it to a flat form, instead of that conical one, with

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the nipple in its apex, which it ought to preserve ; and the nipple is buried in the breast. By being constantly kept in this position, it contracts adhesions, it is prevented from coming out ; the whole breast is deprived both of its beauty and use, and is even driven out of its proper place.

Parents cannot be too cautious in this article of dress. It is a matter of the greatest consequence to their daughters whenever they are in a puerperal state. The tightness of the stays is alone sufficient to do much harm, but they are also, often made hard and unpliant by packthread and whalebone, which must greatly increase the mischief.

I will here subjoin a short description of the breast, for the benefit of such of my readers as may not yet have had proper opportunities of gaining information. The breast consists of a large conglomerate circumscribed gland, mixed with a considerable quantity of fat. The glandular substance is composed of a congeries of small convoluted arteries, veins, and nerves. The ultimate arteries, before they terminate in their correspondent veins, detach minute branches for the separation of the milk, which uniting as they proceed to the nipple, form small canals, called the lactiferous tubes : these are about seven or eight in number, communicating with the basis of the nipple, and general-

ly opening at its apex by the same number of ducts, though sometimes two of them open by a common orifice. The ducts adhere to a tough ligamentary elastic substance, which is continued from the gland, and terminates with the ducts in the nipple. This ligamentary substance and these ducts which it contains, are capable of extension and contraction to a great degree, and in their natural state are moderately folded, curled, or corrugated; by which mechanism the place of valves is supplied, and the involuntary eruption of the milk prevented, unless the distending force be very great, from the accumulation of too great a quantity. The whole substance of the nipple is spongy, elastic, and subject to different changes, becoming sometimes hard, sometimes flaccid, sometimes flat, and sunk into the breast, and at other times prominent. Its outward surface is uneven, and full of small tubercles. The nipple is surrounded with a disk or circle of a different colour, called the areola, and on the inside of the skin of the areola, are disseminated little glands, known to anatomists by the name of sebaceous glands. These supply an oily mucus, to defend the areola and nipple from that abrasion which would otherwise be the consequence of friction, and likewise to glue up the mouths of the lactiferous tubes. The skin upon these parts is extremely thin, and consequently the nervous papillæ lie very bare, and are very liable to irritation,

From this structure of the breast we are enabled to explain the reasons of the several phænomena of suction. Why the milk does not flow spontaneously from the breasts in all subjects. It is prevented by the convoluted position of the ducts, and their orifices are glued up by the sebaceous juice of the glands. Why the milk flows with impetus after the first suction. The tubes are elongated and unfolded, the sebaceous gluten separated from their orifices, the stream of milk keeps the tubes straight, and their channels free from impediment. By suction the body of the breast is increased in length, and its breadth contracted, or in other words the whole is made more conical, and thereby the milk is pressed into the tubes at a time when they are straight and open.

The operation of suction itself depends upon the principles of the air pump. The air being exhausted from the lactiferous tubes by the action of the child's mouth, the pressure on their sides propels the milk towards the part whence the air is exhausted, that is, the nipple, and occasions it to flow into the child's mouth, which is also exhausted of air.

Hence it will appear evident why women of rank, and those in the middle stations of life, meet with difficulty in giving suck to children, and have gen-

erally more or less of a milk fever, in their first lyings in, but if they suckle their children, and meet with proper treatment, have never any afterwards. Hence it will appear why hard working, labouring women, who are obliged to go very loose about their breasts, generally make good nurses, and that too with very little trouble.





## C H A P. IV.

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### GENERAL DIRECTIONS FOR THE PREVENTION OF MANY DISORDERS PECULIARLY INCIDENT TO THE PREGNANT STATE.



THE prophylactic art, or the prevention of diseases, particularly of fevers, is a study of the utmost consequence to every one who practises surgery or midwifery. Without a perfect knowledge of this branch of physick, the practitioner cannot hope, at least he ought not to expect, success, either after several of the principal surgical operations, or after the deliveries of women, whether they be natural, præternatural, or laborious.

As soon as a woman has conceived, and a stop is put to the usual return of her menses, it has generally been imagined, that most of her disorders, and  
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the danger of miscarriage, arise principally from a plethora, and bleeding has almost constantly been prescribed. This mode of practice may be good in some cases, but it ought by no means to be adopted as a general rule, when we consider the customs of the present times. In the days of Queen Elizabeth, when our ancestors breakfasted upon more substantial food, and lived a more active life than we do at present, inflammations, and all those diseases which are incident to plethoric habits, were extremely common in this island. With a change of diet, and mode of living, it is well known we have experienced a change too of those diseases for such as are the constant attendants of relaxed and weak fibres.

There are few disorders of either sex which now require such copious bleedings as they did half a century ago; for in less than that time a considerable alteration has taken place amongst us.

It is not probable that the catamenia are caused by a general plethora; but even if this were allowed, it would not from thence follow that it is the certain attendant of the pregnant state. For if we consider the large quantity of blood which must necessarily go towards the support of the child, and the nausea, vomiting, and almost total loss of appetite, which are the frequent concomitants of pregnancy



nancy in its early state, it will appear that if a plethora did at the very first exist, it must in many constitutions have a very short duration. I have known several ladies of delicate, tender, weak constitutions, with bad appetites, who never went to their full times when they were bled during pregnancy, and as constantly became the mothers of healthy children when that operation was omitted; so that the maxim of \* Hippocrates, that venæsection in a pregnant woman will produce a miscarriage, especially if she be far gone, although by much too general, appears to be not so ill founded as has been lately supposed; especially if we consider the relaxed constitutions in the warm climate where he lived †.

## I

\* “Mulieri uterum gerenti vena sc̄cta abortionem facit, idque potissimum si fœtus grandior fuerit.”

Hipp. Aph. 31. sect. 5.

† Dr. Lobb, in treating of the *danger of abortion*, has some useful and ingenious observations on this subject. He computes the monthly discharge of women at *five, six, or seven ounces* at a medium. Supposing it *seven*, the total quantity in ten lunar months amounts to *seventy ounces*, or *four pounds, six ounces*. But the weight of a child with its placenta and membranes, is greatly superior to this; for in an instance which he adduces, that of the child was *sixteen pounds seven ounces*, and that of the placenta, *one pound four ounces*. As all this quantity of matter must first have existed in the mother's arterial system, he concludes, that during pregnancy there must be a continual diminution of the quantity of blood, and instead of danger from a plethora, that a women will never be in so much want of blood in any period of her life. This appears also from the thinness of the face and body during that period. Hence he infers the danger from bleeding of causing an abortion, by diminishing the vital strength of the mother, and depriving the child of its due nourishment. He observes from fact, that young women who have their full  
quantity

I have experienced the happy effects of giving asses milk, Pyrmont, and Seltzer waters, bark, and not only the dulcified, but the acid vitriolic elixir. I have known short rides on horseback, repeated daily, procure success when total confinement would not ; and have for a great number of years been sensible of the good effects of cold bathing\*, not only in preventing miscarriages, when every other method has been likely to fail, but other disorders which are incident to pregnant women, and generally

quantity of blood, their flesh firm, their bodies strong and agile, and inured to exercise, scarcely ever suffer abortion, except from some violent occasion ; whereas they are most subject to miscarry who are of a tender constitution, have lax muscles, a feeble pulse, and too little blood.

Compend. of the Practice of Physick, p. 89, & seq.

\* I have not only observed the good effects of cold bathing in pregnant women, but have for some few years past recommended it to nurses giving suck, who have reaped great advantages from it. What first put me upon this practice was the information I had gained that several of the women at Scarborough, who made it their business to attend upon ladies during their being in the sea, found that when they were nurses they had better health, were much stronger, and had greater plenty of milk than they had at other times before they began this practice.

There is a contrivance for bathing in the patient's closet, which I am informed has been practised many years in Scotland, and which is really very commodious. The machine that contains the water is made of tin, and is suspended over the patient's head, who stands in an empty tub, surrounded by blankets, which are fixed to the machine ; every thing being thus prepared, the patient pulls at a cord, and the water falls upon her through a culender.

Dr. Lind says, " The use of the cold bath, either in a tub, or to dip in the sea early in the morning, has been found extremely beneficial in warm weather,

ally attendant upon a weak lax fibre. By cold bathing I do not mean the making use of a bath, cold to the greatest extreme, but the use of such as that at Buxton, or at Matlock, of sea bathing, or bathing in a tub in the patient's own house, with the water a little warmed. I have frequently advised my patients to bathe every other day at a time when the stomach is not overloaded, and not to stay at all in the water ; to begin this process as early as possible, even before they have conceived, as there will then be no danger from the surprise, and to continue it during the whole term of pregnancy ; and several have bathed till within a few days of their delivery. From the success I have seen attend this practice in preventing miscarriages, and many of the disorders peculiar to the pregnant state, particularly nausea and vomiting, I am satisfied they are much seldomer to be attributed to a plethora than to weak lax fibres, and a sympathetic

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weather, and in hot countries ; and that he can affirm, from his own experience in hot climates, that many diarrhœas and other complaints, the pure and sole effect of an unusual and great heat (relaxing the system of the solids, and occasioning a colliquation of the animal juices) have not only been cured by cold bathing, but their return and the attack of such diseases effectually prevented by it."

On the Health of Seamen, p. 44.

Dr. Whytt, speaking of cold bathing, says, " I shall only observe, that I have known it of great service to several women, who chiefly from a weakness of their nervous system were liable to abortions."

See likewise Sir John Floyer and Dr. Baynard on Cold Bathing.

ic affection of the nerves from a distention of the uterus : And in these cases I have generally found that exercise, bark, elixir of vitriol, and Pyrmont water, joined with cold bathing, have had the best effect.

I am convinced that bleeding is too indiscriminately used, and too often repeated ; and that though it may on some occasions give immediate relief, yet upon the whole it must aggravate the complaints, weaken the patients, and render them more liable to putrid diseases. But I would not be understood to mean that bleeding is never necessary : in some habits and in inflammatory disorders, it certainly is so, particularly if the patient complain of a sense of fulness, pain of the head and back, with a strong full pulse, &c. and has had a better appetite and used less exercise than before her pregnancy ; but even in plethoric cases unattended with inflammatory symptoms, asses milk, Seltzer water, elixir of vitriol, and an active life, answer the same purpose as bleeding ; with this advantage, that they will obviate the present plethora without favouring its return, which is a strong objection to frequent bleeding ; at the same time that they strengthen and brace the solids.

Riding on horseback, and indeed all kind of exercise, must be avoided, when any symptoms of abortion appear ; on that occasion, total rest and a recumbent posture are undoubtedly of the greatest consequence.

consequence. Nor is much exercise proper at the latter end of pregnancy.

The keeping the intestinal canal open is an article of great importance ; for this purpose vegetables and ripe fruit in large quantities may be allowed, bitter antiseptic purges in small doses should be given every, or every other night, and even aloetics (if the patient be not subject to the piles) mixed with other antiseptic resinous gums. The use of these will prevent the intestines from being plugged up by accumulations of hardened fœces, whereby putrid flatulencies are generated. Gentle vomits may be administered with safety and advantage, in order to cleanse the stomach when necessary, and teas made of bitter antiseptic herbs may be drank daily : vegetable acids, columbo\*, and likewise

\* Though the columbo root has not yet made its way into any of the dispensaries, nor been mentioned by any author we are acquainted with, yet it has been given in England these thirty years or more, in obstinate vomitings, and in many other complaints of the stomach and bowels. It was first brought to Manchester by a worthy Apothecary, about five and twenty years ago, and has been constantly given ever since in bilious disorders of both sexes : he had it from Mr. Robinson of Richmond, a gentleman with whom he lived, who had given it for several years for such like complaints. Mr. Robinson brought it from the East Indies, and said the natives there frequently took about as much of the powder as would lie upon a sixpence in a glass of arrack, for the diseases I have mentioned, and it was generally attended with success.

Dr. Percival, whose merit as an author is sufficiently known to the medical world, has been so obliging as to favour me with some useful experiments he has lately made upon this valuable drug, and which he intends in a short time



wise neutral mixtures, taken during the act of effervescence, which are all antiputrescents, operate to the same end, and are generally of great service in vomitings occasioned by a redundancy of acrid putrid bile. Raw eggs† taken at any time during pregnancy,

time to publish. The result of these experiments are, that columbo root is inferior as an antiseptic to the Peruvian Bark, in preserving animal flesh, but superior both to the bark, and to camomile flowers, in preserving bile from putrefaction, and in restoring it when putrified. That an infusion of the bark, when mixed with putrid gall and saliva, instantly produced a coagulation of the gall, and considerably increased the sctor of it; whereas an infusion of columbo united perfectly with it, and very powerfully corrected its offensive smell. These experiments, I think, explain to us the mode of its action, and the reason of its success in bilious vomitings, and many other affections in the stomach and bowels, and point out to us what disorders it is likely to relieve and cure. Hence the Doctor very justly infers that the utility of the columbo root must be evident in diseases of a putrid tendency, or in an impaired digestion from vitiated bile or corrupted saliva.

† It is not improbable that the temporary jaundice, to which women with child, new born infants, and even adults of both sexes, are frequently subject, owes its origin to the stoppage of the mouth of the ductus communis chole-dochus, by some tenaceous gluten obstructing, either totally or in part, the passage of the bile into the duodenum, and thereby occasioning its return into the blood. The attention I have paid to jaundiced patients of both sexes, and of every age, who have been cured by frequently taking raw eggs in cold spring water, has inclined me much to this opinion. My supposition is, that eggs act as a dissolvent of the gluten which obstructs the mouth of the duct, thereby opening a free passage for the bile into the duodenum. We know that yolks of eggs will destroy the tenacity of the gums and resins, and render not only them, but also oils and natural balsams, miscible with water.

The first trial I had of this remedy was upon myself, about fourteen years ago, when I had been afflicted with the jaundice many weeks, and was much reduced, no bile having for a long time past into the intestines, when my skin was almost black, and after I had in vain taken large quantities of soap, madder, steel, rhubarb, and aloetic medicines. An officer of marines told



pregnancy, but especially at the latter end of it, are very serviceable, (provided the stomach will bear them.) in preventing and curing that temporary jaundice to which some women are liable. If the patient

me that if he might be allowed to prescribe, he would immediately cure me. I laughed at his proposal; when he informed me, that some years before, in the Mediterranean, he was troubled with the same disorder to as great a degree as myself, and that after he had ineffectually tried all the remedies the Surgeon of the ship could think of, a Spanish Physician at Minorca had assured him he could cure him in a few days, by this simple prescription only—two raw eggs, the whites as well as yolks, to be taken every morning in a glass of water fasting, with the addition of an egg every four hours during the day. That in three days after following this advice he began to perceive the bile in his stools, though none had appeared in them for many weeks before; that he immediately began to recover, and was very soon effectually cured. Upon considering the dissolvent property of yolks of eggs, and that eggs must at least afford a nourishment totally void of acrimony, I began to entertain a more favourable opinion of the recipe.

I tried it and found it had exactly the same effect which he promised me. Though I was certain no bile had passed through me for six weeks before, upon taking the eggs only three days it began to flow, and in only one day more in as great plenty as I could wish. I continued, however, to take them several months, and have never since had any return of the disorder.

I have recommended the use of them to many persons under the same complaint, and have always had the satisfaction of finding their success, except in cases where the disorder was occasioned by a diseased liver, or by stones in the gall bladder.

Is not the following case and dissection from Sir John Pringle some proof of what I have advanced? “A gentleman of thirty six years of age, who died of a dropsy following an obstinate jaundice, was opened about twenty four hours after his death. The liver, by its tenderness, seemed to be in a corrupted state. The gall bladder was full of bile, and three times larger than is common. The *ductus communis* was so closely stopped at its entry into the *duodenum* that no bile could be squeezed out of the bladder into that gut.”

Appendix to the Dis. of the Army, 178.

patient cannot take raw eggs, or the disorder should prove very obstinate, a small dose of calomel may be given with safety and advantage.

Lacing the stays tight has been practised not merely in conformity to the rules of fashion, but from a mistaken notion that by pressing the children lower down, the mothers would have better times. This I will venture to say is one of those vulgar errors which have not the least foundation in either fact or reason. I never yet knew children lie too high. In their natural situations they are much less inconvenient to their mothers, and are carried with greater ease; to which I must add, that the mothers have at least as good or better times than when they are pressed down too low, by which means the belly of the mother becomes pendulous, and the child is troublesome to carry; the inconvenience increases too with every child, and where the mother has had a great number, the weight at last becomes intolerable. The constant pressure of the uterus upon the bladder in this case occasions frequent motions to make water; an incontinence or involuntary discharge of it sometimes comes on, and it is attended with many other inconveniences.

I would advise every pregnant woman to wear jumps buckled on very slack, having broad easy  
shoulder

Shoulder straps, with tapes sewed to the bottom of the jumps, to which the petticoats and pockets may be fastened ; so that there may be neither tightness round, nor weight upon the belly, but when the woman is in an upright position, as much of the weight of what she externally carries as possible, may hang from her shoulders.

This will preserve the womb from being pressed too strongly against the lower intestines, and will help to prevent that costiveness, and that incontinence of urine which are too often attendant upon the pregnant state. But when the belly is remarkably pendulous, pressing too much upon the pubes, so as to occasion these troublesome symptoms, in order to counterbalance this pressure, a bandage may be worn under the shift, its lower edge coming to the pubes before, and supported on the sides by the hips, or spine of the ilia. The upper edge should surround the abdomen above the point of its greatest diameter, to prevent its slipping down, unless the hips should prove a sufficient support. This bandage, or kind of under waistcoat, should be drawn tight, with a lace behind, according as circumstances require, and should likewise be supported by straps passing over the shoulders.

In the latter months of pregnancy, the frequent lying down upon a couch or bed in the day time will give great relief to the muscles, by taking off

the incumbent weight, and thereby preventing those pains of the belly, back, hips, and thighs, and those swellings of the legs which are so usual at that period.

The directions I have attempted to lay down in this chapter will admit of many variations according to particular circumstances ; but, in general, I can speak with confidence of the advantages resulting from them ; and so far from containing any thing that can weaken or injure the constitution, I have no doubt that the observance of them will greatly tend to establish the general health of the patients.





## C H A P. V.

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### OF NATURAL BIRTHS, PARTICULARLY OF THE SECUNDINES, AND THE PREVENTION OF AF- TERPAINS.



THE retention of the secundines has, in almost all ages, engaged the attention of the professors of the obstetric art. Controversies and disputes have arisen, and different modes of practice have been pursued, yet the proper treatment has not hitherto been precisely determined. There are some who contend for the manual extraction, immediately after the birth of the child, in all cases indiscriminately. There are others who leave the business entirely to nature, in every case whatsoever; and there is yet a third class, who pursuing a middle course, try gentle methods for a while, and, upon the failure of these, proceed to manual extraction,

traction. Advantages and disadvantages are said to attend these various modes of practice.

The first of these has now the fewest advocates, for certain pain and danger must attend the operation, and in almost every case, the odds are great that it is totally unnecessary. The second is supported by professors of great abilities and experience ; but the secundines sometimes acquiring a great degree of putridity, by retention for many days in the uterus, or not coming away at all, but occasioning putrid fevers, and sometimes floodings so violent as to bring on the patient's death, these reasons, added to the general discontent arising from the retention, not only to the patient, but her friends, have very justly prevented this mode from being generally adopted.

The disadvantage said to attend the last method is this ; by waiting an hour or two, you lose the opportunity of extracting the secundines, the womb contracting, either at its mouth, or across its middle, like an hour glass, by which contraction, laceration is endangered, if the hand be forced into the uterus.

The bringing the art of midwifery to perfection, upon scientific and mechanical principles, seems to have been reserved for the present generation. We  
have



have been but lately able to explore the secret operations of nature. The ancients, and even the moderns, till within a few years past, were not only entirely ignorant of the position of the child in natural labours, but even during the whole time of pregnancy : they had not properly considered the exact form and dimensions of the pelvis\*, and the effect these must necessarily have upon the infant's head, during the time of its delivery.

Sir

" \* On the whole, it is of the utmost consequence to know, that the brim of the pelvis is wider from side to side, than from the back to the forepart; but that at the under part of the basin, the dimensions are the reverse of this proportion, and that the back part in point of depth, is to the forepart as three to one, and to the sides as three to two."

Smellie's Midwifery, vol. 1. p. 81.

" In this Table, besides the general structure and figure of the several bones; the dimensions of the brim of the pelvis, and the distance between the under parts of the ossa ischium, are particularly to be attended to, from which it will appear, that the cavity at the brim is commonly wider from side to side than from the back to the forepart, but that the sides below are in the contrary proportion. The reader, however, ought not from this to conclude that every pelvis is similar in figure and dimensions, since even well formed ones differ in some degree from each other. In general, the brim of the pelvis measures about five inches and a quarter from side to side, and four inches and a quarter from the back to the forepart, there being likewise the same distance between the inferior part of the ossa ischium. All these measures, however, must be understood as taken from the skeleton ; for in the subject, the cavity of the pelvis is considerably diminished by its teguments and contents. Correspondent also to this diminution, the usual dimensions of the head of the full grown fœtus are but three inches and a half from ear to ear, and four inches and a quarter from the forehead to the hind head."

Smellie's Explanat. of his first Anatomical Table.

Sir Fielding Ould\*, in a Treatise upon Midwifery, published at Dublin in 1742, was the first who seems to have discovered that the situation of the child in the beginning of labour is not with its forehead towards the mother's back, but turned to one side. But though he was the first that gave the hint, he had not then so thoroughly considered it as some others have done since the publication of his Treatise.

Doctor Smellie published his first volume of Midwifery in 1752, and his Anatomical† Tables in 1754, wherein he has more fully explained this matter.

We are obliged to Dr. Johnson, whose General System of Midwifery was published in 1769, for the confirmation, and farther illustration of the manner in which the child's head passes through the pelvis.

I must here take notice of an error in practice, which has not, that I know, been remarked by any  
writer

\* Treatise of Midwifery, p. 28.

† Notwithstanding it has been handed down as an invariable truth, from the earliest accounts of the art, to the present times, that when the head of the fœtus presented, the face was turned to the posterior part of the pelvis, yet from Mr. Ould's observation, as well as from some late dissections of the gravid uterus, and what I myself have observed in practice, I am led to believe that the head presents, for the most part, as is here delineated, with one ear to the pubes, and the other to the os sacrum; though sometimes this may vary, according to the form of the head, as well as that of the pelvis."

Smellie's Explanat. of his 9th Anat. Table.

writer on this subject : It depends upon the following principles :

These great improvers of the art, considering labour as a mechanical operation, have perceived that the head in its passage through the pelvis must alter its direction, according to the width of it in different places : but here they stop short. They have not applied this rule to the shoulders, which, though not forming so great an obstacle as the head, are yet certainly capable, by their bulk \*, of forming

“ \* A middle sized woman brought forth by the natural efforts a large sized child, whose weight and dimensions were as follow : The weight ten pounds and eight ounces troy. The diameter of the head from temple to temple was three inches and an half, from the os frontis to the occiput four inches and an half, and the circumference at those parts was thirteen inches.

“ The breadth of the body at the shoulders was five inches, the length of the head from vertex to chin six inches, and that of the whole child full twenty one inches.

“ A young woman who was muscular, small sized, and in her pregnancy had sustained a very tedious and violent labour, at last, by force of pains brought forth a child, whose weight was only eight pounds five ounces troy ; its head however was of the following dimensions : From temple to temple four inches, from os frontis to occiput five inches and an half, the circumference at those parts fourteen inches ; and the length, from vertex to chin, was eight inches and an half.

“ This child's head was greatly squeezed out in length, by the violent compression which it had suffered in its course through the pelvis.

“ A large woman who had borne several children, in 1759 brought forth a child of the following weight and dimensions : The weight fourteen pounds and one ounce troy, the length of the whole body twenty two inches and an half.

“ The

forming a resistance when offered in a wrong position. Now the greatest breadth of the head being in a line which forms a right angle with one which passes through the shoulders, it necessarily follows, that all the turns made by the shoulders must be opposite to those of the head. When the head passes with the face towards the sacrum, and the hind part of the pubes, the shoulders must pass sideways ; and *vice versa*. Accordingly we find that this is the way in which nature herself proceeds, though art has neglected to pay attention to it.

We are directed by all writers in midwifery to bring out the shoulders as soon as the head is produced, by taking hold of the head and pulling it forward in the same direction ; whereas when the natural pains are allowed to accomplish the work, they always come out with a turn, which throws the broad part of the shoulders into the same direction in which the largest diameter of the head had lately been, that is, one shoulder to the sacrum and the other to the pubes, or nearly so. By this improper

“ The diameter of the head from temple to temple four inches ; from os frontis to occiput five inches and one eighth ; its circumference at those parts, fifteen inches ; and its length from vertex to chin five inches and one fourth.

“ The circumference of the body at the shoulders, arms included, eighteen inches and an half ; and at the ilia fifteen and an half. The breadth of the body at the shoulders, seven inches, and at the ilia six inches.”

proper interference of the artist, violence is offered to the vagina. The womb and its ligaments suffer by an undue distension, and thus, I have reason to believe, inflammations, prolapsuses, retentions of urine, and a train of disagreeable symptoms are often caused. This improper and too hasty delivery of the shoulders, in natural labours often occasions the retention of the secundines, and is in some measure the cause of afterpains; for the womb being improperly stretched out, and the body of the child prematurely delivered without a natural pain, the womb, instead of contracting regularly from its fundus, is thrown into spasmodic strictures, either at its mouth, or across its middle. By this means the secundines are retained till these unnatural contractions are overcome; and the mouths of the sinuses or uterine veins are closed before they could have an opportunity of gradually contracting and of discharging themselves of the blood which they contain, the serous part of which drains away and leaves the crassamentum behind in the sinuses, which grows the more fibrous the longer it remains; and the parts being irritated by this extraneous body, endeavour to disburden themselves, by what are called afterpains\*.

Before

\* Dr. Burton advises a method of preventing afterpains being very troublesome, which I doubt not would be effectual, but at the same time so painful and so unnatural, that I apprehend it cannot be practised with any degree of propriety. The plan I have laid down will be as effectual without being liable to these objections. He says, "Where I have been employed for persons



Before we attempt to give aid to nature, it is our duty to watch her operations, and to trace her through all her paths; taking care at the same time not to mistake her efforts for those of art, and to remember that few of the human race in this part of the globe are in a state of nature, for which proper allowances must be made. We shall then be better able to assist her when she stands in need, and to set her right if by any accident she has been diverted from her course. Let us consider the most natural case of labour that can possibly happen.

Should a straight healthy young woman, who had never suffered from improper dress, inactivity, or unwholesome diet, be seized with labour pains, upon an open common, totally unattended, and with no assistance near, she would for some time walk about, then sit down to rest, then rise and walk again, till for her own ease, and the safety of the child, she would find it necessary to lie down\*.

During

persons who always in former tedious labours were afflicted with violent afterpains for some considerable time, I have relieved them; for by keeping my fist at the fundus uteri, and gently moving it in a rotatory motion, an incredible number of these clots have come out of the sinuses in a very little time, and having brought all out of the womb, the afterpains have been trifling afterwards."

Essay on Midwifery, p. 346.

\* Dr. Denman is of opinion, and I think with great probability of truth, that resting on the hands and knees, is the position instinctively sought for, and perhaps most natural in time of labour. Vid. Introduction to the Practice of Midwifery, Part 1. p. 58. London, 1782.



During this time the mouth of the womb would be gradually opening, and the dilatation would occasion a separation of the spongy chorion from the womb. The communicating vessels breaking, they would discharge a lymph moistening the vagina and the external parts with a mucilaginous liquor. She would have intervals of ease, and perhaps during these intervals some sleep. The membranes with their contained water would advance, and at last bursting, the remainder of the water would gradually drain away, and further help to moisten the parts. The womb would be contracting by degrees during every pain; the head would advance and make the proper turns; the perinæum would gradually stretch and lengthen, till a pain had forced the head into the world. She would then have a little respite. The pain returning would drive the shoulders forwards, making their proper turns, and accommodating themselves to the different dimensions of the pelvis, till they were quite excluded. She would then have another respite. The returning pain would expel the hips, but with less difficulty, the womb continuing to contract itself regularly as the child advances, when in consequence of the pain the whole child would be delivered. If the navel string should break, it would not bleed. After a little while, when she had somewhat recovered herself from the fatigue she had undergone, and the womb had still further contracted

contracted itself, another pain would expel the fecundines. If the funis should not break, after the child has cried a few minutes, or a quarter of an hour, the circulation in it would cease. Whether it broke or not, there would be no danger of an hæmorrhage from it, provided it was not cut. If the fecundines be wholly excluded before the pulsation in the navel string is stopped, no bad consequences will ensue, the circulation will still be carried on betwixt the child and the placenta as perfectly as if it were in the womb, till the child's lungs are fully expanded, and the necessary alterations have taken place. These circumstances shew the great care of nature in the preservation of her productions.

The poor woman would now be rejoiced at her relief from pain, and her delivery from her burden, but being over fatigued, (as well by the agitation of her mind as that of her body,) she would naturally fall into a gentle slumber. When she awoke, her next care would be for her tender offspring. She would sit up, take it in her arms, and apply it to her breasts, where it would find food of a proper quality, and in quantity sufficient to supply its trifling wants. She would not long remain in this situation. She would soon get up and walk to procure needful sustenance for herself.

This description is not merely ideal, it is what happens every day, with a trifling change of circumstances.

stances. The female savage, the soldier's wife upon her march, and many women privately delivered of their illegitimate offspring, experience the truth of it ; but I do not hence infer that the case would be the same with every woman. I know it would not. Tender constitutions, hereditary disorders derived from the intemperance of our ancestors, and made worse by improprieties of dress, by indolence and improper diet, render this impossible. But we should always have nature in our view. By closely studying her, we learn in what manner to give her assistance when she stands in need of it. Neither would I from hence infer, that art is never necessary. I know it sometimes is in every stage ; in pregnancy, in labour, and after delivery ; but it frequently happens that those who are the busiest when there is no necessity, are the most incapable of giving relief in cases of real danger. The practitioner should be well versed in the knowledge of anatomy, physiology, and the mechanical laws ; he should not only understand the theory and practice of midwifery, but of physic too ; he should have patience, experience, and humanity ; courage and dexterity in operating, together with presence of mind, and should be in constant practice. I do not say that strength is necessary, dexterity will more than supply its place.

The use of instruments is sometimes needful, notwithstanding any arguments to the contrary, but  
the

the too free use of them ought by no means to be encouraged. They are sometimes unnecessarily applied, and are frequently productive of great mischief ; but many lives, not only of mothers, but of children, have been saved by them, of which every one must be sensible, who has been much versed in general practice.

In all natural parturitions I would pursue the following method : In the beginning of the labour I would be so far from confining my patient to any one position, that I would not even confine her to a single room, but would let her walk about from one apartment to another. Whenever a pain should oblige her to lie down, I would take that opportunity of examination, that I might know whether the child was in a right position, and how fast the labour was advancing, and this is best done when the pain is going off. As soon as I was satisfied of its right position, I would acquaint my patient with it, that I might afford her every comfort in my power ; but I would not encourage her, by telling her that the child would soon be born, without there was the greatest certainty of it, lest she should be disappointed, and think the time long ; and lest, by such encouragement, she should attempt to assist herself, and thereby exhaust her strength and spirits. During the whole time of her travail she ought to enjoy the freest air ; she  
should

should not be crowded with more friends or attendants than necessity required, and the door, and even the window of her room, in summer time, should be kept open. Too much care cannot be taken to prevent the air in the room from being rendered foul, or the patient being overheated at this time ; for if her labour should prove tedious, and she should for many hours be kept in a burning heat, or in a sweat, the velocity of the blood would be much accelerated, the perspiratory ducts would be obstructed by the sweat, and the patient would be much weakened ; the air of the room also would be so contaminated by sweat, and the perspiration from the skin and the lungs of the patient and her assistants, as not to be soon purified again. But the danger does not stop here. Should this treatment be continued, a fever is the inevitable consequence ; should she be suffered suddenly to cool, the perspiration is still more obstructed and a fever is in this manner brought on. The keeping the patient continually cool, and the air free from putrid effluvia are matters of the utmost consequence. The neglect of these cautions often lays the foundation of puerperal and miliary fevers.

When the patient is costive, a clyster\* should be administered to empty the lower intestines. This  
will

\* The elastic vegetable bottles are greatly preferable to common clyster bags for administering clysters.



will likewise help to remove those spasms which are so common in the beginning of labour. If the infant do not advance, and the mother should suffer many short, but tormenting pains, without manifest advantage, there will be reason to suspect that these pains are spasmodic, or what are generally called false or spurious, being only contractions of the abdominal muscles, not of the uterus; but this may be easily known by examining whether the os uteri begins to dilate; if it do not, an opiate will relieve her, and regular pains will probably follow.

Should the labour begin with a diarrhea, the symptom is far from being bad, but is frequently attended with the happiest effects by unloading the intestines. If the patient become too cool and low, warmth and cordials may be allowed her, but these should be no longer continued than absolute necessity requires. As the labour advances she will seldom complain of cold, except she have been kept too hot, and have sweated profusely. The patient generally requires more air, and can bear more cold than her attendants.

Where the accoucheur is satisfied that the labour is natural, and that every thing is proceeding well, the patient should not be teased by attempting to hasten her delivery, nor even by too frequent examinations.

When



When the business is so far advanced that there is reason to believe the child will soon be born, it is in my opinion of great consequence that the woman should be in an horizontal position, and it will be most convenient if she lie upon her side with her back towards the practitioner. Placing the patient upon her hands and knees is not an unfavourable position in natural labours; and it prevents the child from pressing too much on the perineum. In some preternatural cases too, it is often of great service. Other positions indeed, such as standing, sitting, hanging by the arms between two persons, half sitting and half lying, either upon the bed or on the knee of an assistant may be, and I believe are often, serviceable in expediting delivery, and are therefore extremely proper in flow tedious labours, except at their conclusion; but I would by no means advise that the child should, in any case whatever, be born, or the placenta extracted in any of these positions. Very hasty deliveries, especially in such positions, are often of dangerous consequence, frequently occasioning laceration of the perineum and sphincter ani, prolapses of the vagina and anus, inversions of the uterus, retention of the secundines, floodings, after-pains, syncopes, faintings, and death itself.

I cannot here help condemning the free and indiscriminate use of the greasy applications. They  
are

are not only frequently unnecessary, but if they be used in such quantities as to prevent or destroy the action of that mucus which nature has prepared for the purpose of lubricating and moistening the parts, they may be prejudicial. Though, on the other hand, if there be not a proper quantity of this mucus secreted, or if it be exhausted by a tedious labour, these applications may be proper and even necessary substitutes.

When the perineum begins to protrude, the pressure of a hand against that part will give great ease to the patient ; the degree of pressure must be left to the judgment of the person employed ; but if the pains be very forcing, it ought to be such as will prevent a too hasty delivery. If this caution be observed, and the patient be kept in an horizontal position, there will be no danger of a laceration of the perineum.

As soon as part of the head is produced, it is the custom of many practitioners to seize hold of it immediately, and to drag it forth with the greatest expedition, as if the safety both of the mother and the child entirely depended upon it.

This practice is founded upon a gross mistake, and the patients often suffer from this piece of rashness. From many observations which I have made  
within

within these few years, I am convinced that upon the management of this part of the delivery depends the easy or difficult exclusion of the secundines, and the prevention of afterpains. Leave things to nature, and in general she performs her work the best without assistance. After the patient has recovered herself a little, the pain will return, the shoulders will make their proper turns, and be properly expelled. Should the navel string be wrapt round the infant's neck and shoulders, nay, should it even be drawn tight, the child would not for a considerable time, suffer as the circulation in it does not stop before it has undergone a very great distension. After the child is expelled in this gradual manner by the force of the woman's pains, the womb by degrees contracts itself from its fundus; its neck, and even its middle, being kept from contraction by the part of the infant which remains within.

Where nature is very slow in relieving herself, assistance ought to be given, but not till it is seen how far she is able to do without it.

The common method of tying and cutting the navel string in the infant the child is born, is likewise one of those errors in practice that has nothing to plead in its favour but custom. Can it possibly be supposed that this important event, this great

change which takes place in the lungs, the heart, and the liver, from the state of a fetus, kept alive by the umbilical chord, to that state when life cannot be carried on without respiration, whereby the lungs must be fully expanded with air, and the whole mass of blood, instead of one fourth part, be circulated through them, the ductus venosus, foramen ovale, ductus arteriosus, and the umbilical arteries and vein must all be closed, and the mode of circulation in the principal vessels entirely altered—Is it possible that this wonderful alteration in the human machine should be properly brought about in one instant of time, and at the will of a bystander? Let us but leave the affair to nature, and watch her operations, and it will soon appear that she stands not in need of our feeble assistance, but will do the work herself, at a proper time, and in a better manner. In a few minutes the lungs will be gradually expanded, and the great alterations in the heart and blood vessels will take place. As soon as this is perfectly done, the circulation of the navel string will cease of itself, and then if it be cut, no hemorrhage will ensue from either end: notwithstanding this, it will be always adviseable to tie it, as an hemorrhage might come on if the circulation should be quickened by the warmth of the clothes and the bed. If the funis be cut immediately after the birth of the child, or before the pulsation in it ceases, that end next to the placenta will

will bleed about three or four ounces, and if that end next to the child were not tied, it would in all probability bleed to death.

Whatever method be pursued it is better not to tie that end next to the placenta, for the more it is lessened by the blood being drained from it, the greater liberty is given to the uterus to contract.

By this rash, inconsiderate method of tying the navel string before the circulation in it is stopt, I doubt not but many children have been lost, many of their principal organs have been injured, and foundations laid for various disorders.

When the infant is removed, the secundines are sometimes found wholly expelled: sometimes the placenta is extruded from the womb into the vagina, in which case it is to be handled gently, and with great care gradually brought away, lest any parts of the *caduca*\*, chorion, or amnios, should be left behind, for this would occasion a very putrid discharge, together with pain and a fever. These membranes are so extremely tender, that they will bear very little force, and it frequently will be many minutes before they can be brought away  
after

\* The third external membrane, which is very spongy, was first discovered by that great anatomist, Dr. Hunter, and is by him very properly called *decidua*, or *caduca*, as it appears to be a lamella cast off from the internal surface of the womb.



after the expulsion of the placenta, the spongy chorion adhering so closely to the womb. Sometimes an interval of eight or ten minutes succeeds the birth of the child, when a pain coming on, the secundines will be easily extracted by gently pulling the navel string, and here an easy pressure upon the abdomen, by assisting the uterus to contract, will be of service.

If the placenta be very large, a finger may be introduced to bring down one edge of it as soon as it is within reach. But whatever method be made use of to bring it away, the patient should continue in an horizontal position.

In this manner I have proceeded for several years, and during that period I can with satisfaction declare, that in natural labours I have never had occasion for the manual extraction of the placenta; I have never left my patient till it came away, nor have I ever been detained a single hour by it; nor since I practised this method have I often had occasion for the use of opiates, or any other medicines, to relieve the afterpains, which have generally been so trifling, both with regard to violence and duration, as not to deserve notice.

As to laborious or preternatural parturitions, they do not fall under my present consideration,  
and



and I shall only observe, that presentations of the feet, knees, or buttocks, must be treated in the same manner as natural presentations, and the accoucheur should wait with patience till the breech is born, when it will frequently be necessary to give some assistance, lest the child's life should be lost, by its head pressing the navel string against the pelvis, so long as to stop the circulation in it.





## C H A P. IV.

OF THE PREVENTION OF THE 'PUERPERAL,  
MILIARY, AND MILK FEVERS.



S soon after the woman is delivered as it can be conveniently done, clean linen should be put about her, she should be left to the most perfect quiet of body and mind, that she may, if possible, get some sleep. The child should be removed into another room, and no visitors, or other persons, except such as are absolutely necessary, should be allowed to enter the patient's chamber. A number of people, besides preventing repose, foul the air, and render a frequent supply necessary. From hence appears the disadvantage of a small apartment. Where the patient has it in her option, I would 'always recommend a large lofty room upon the first chamber floor, and could wish it (if in summer) to have a northern aspect, but if that cannot  
be

be had, there should be window blinds placed on the outside of the windows, for when they are on the inside, they do not answer the purpose of keeping out the heat of the sun. In this room there ought to be no fire in summer, and little or none in winter whilst the patient is in bed, unless she has been used to sleep constantly with one in her chamber ; for though fires are undoubtedly of the greatest service in keeping up a circulation of air, yet at the same time a constant fire in a small room, when a person has not been accustomed to one, may overheat the patient. This I know will be objected to by the nurses, upon their own account, especially if they be to wake, but waking is what I do not approve, except on the first night, and then only if the delivery be late in the evening. It will disturb the patient much less if the nurse have a small bed in the room, but I would by no means suffer the child to remain there, if accommodations can possibly be had for it in any other part of the house. The patient should not be disturbed in the night, either upon pretence of giving her liquid or solid nourishment. If either be necessary, she will naturally of herself demand it.

Much mischief is often done by binding the belly too tight \*. If there be any occasion for support,

\* This disease (the puerperal fever) it must be acknowledged, may follow labour under the best circumstances, but endeavours to dilate the os internum,

port, a thin napkin pinned very slightly round the waist, is all that is absolutely necessary, and the sooner this is disused the better. But if there really were occasion for strong compression, the common methods would be extremely inadequate. The compression must necessarily be unequal, the large hip bones of women effectually preventing such means as these from making an equal pressure upon every part of the uterus.

The thick fustian waistcoats and petticoats usually worn during the lying in, are much too warm. In the whole article of dress and bed clothes, nothing should be added to what the patient has been accustomed to in perfect health.

In a few hours after delivery, as soon as the patient has had a little rest, she should sit up in bed, with a bed gown thrown over her shoulders. If she propose to suckle the child, it should now be laid to her breast, whether there are signs of milk or no. This should be repeated four or five times a day, but in the night it is not necessary either that the breast should be administered, or that any kind of food should be given to the infant.

The patient should lie very high with her head and shoulders, and should sit up in bed many times  
in

internum, and too hasty a separation of the placenta will produce it, and binding the abdomen tight after delivery."

in a day, especially when she takes her food, and as often as she suckles her child, and should kneel whenever she has occasion to make water, which should be often done.

This frequent upright posture is of the utmost consequence, and cannot be too much enforced. It prevents the lochia from stagnating, the stools and urine from being too long retained, and promotes the contraction of the uterus, together with that of the abdominal muscles.

Large quantities of caudle, and thick gruel mixed with ale, wine, or brandy, are often very pernicious. They clog the stomach, and pall the appetite. Strong liquors, as they are apt to heat, should not be given to the patient, unless she has been accustomed to them. Thin water gruel, well boiled and strained, panada, sago, wort, salep, barley water, to which a small quantity of lemon juice has been added ; teas of all kinds, but particularly those of bitter antiseptic herbs, such as camomile, or buckbean ; coffee, cocoa, and chocolate, buttermilk alone, or mixed with spring water, imperial, orange, or lemonade, or plain toast and water may be allowed, provided none of them have been found by experience to disagree with the patient. None of these liquors should be given hot, the cooler they are drank the better, and they  
may

may even be given perfectly cold. Toasted bread, sea biscuit, or something solid should be taken to prevent faintness ; and as soon as the patient has an appetite, her food should consist of boiled bread pudding, boiled fowls, lamb, or veal, vegetables, and ripe fruit. Too much animal food should not be allowed, and it should never be eat oftener than once a day, and then not without bread and greens, roots, or some kind of vegetables. The North American sago powder, dissolved in boiling water, forms a most agreeable, transparent, mucilaginous, vegetable jelly, which is demulcent, restorative, and nutritious ; obtunding the acrimony of the fluids, and correcting putrefaction ; of a more pleasant taste, in my opinion, than Salep, and much cheaper than the foreign salep, though not so cheap as that produced in our own country, and prepared in the manner directed by Mr. Moulton in the Phil. Transf. vol. 59. p. 1.

Whatever water the patient drinks, either alone or in gruel, teas, &c. should not be such as is tainted with any putrid animal or vegetable substances, which is generally the case in all reservoirs of stagnant water and in rivers adjoining to large towns.

Broths\*, or soups made of flesh meat, especially if given warm, are improper, as they are apt to  
throw

\* The French, and many other nations, give their patients *meat soups*, in acute diseases, and after violent operations, and they allow them but little

“ bread,



throw the patient into a sweat, and promote putrefaction. If the patient cannot, or do not choose to suckle her child, she should be very abstemious in her diet ; but if she suckle it, a much greater latitude may be allowed.

Fruits, vegetables, and all kinds of acid or acedent food have generally been denied to nurses, upon a supposition that they created acidities in the childrens' bowels. This in some constitutions they certainly do, but the rule is by no means general. I have known nurses abounding in acrid putrid bile indulge freely in these kinds of food with great advantage to themselves, and with no disadvantage to their infants, as plainly appeared by the

“ bread, or other preparations of vegetable substances ; but these soups, without bread, do not nourish the patient sufficiently, and tend too much to the putrescent ; and this is one reason why more sick die in the French, than in the British hospitals.”

Monro on the diseases of the British military hospitals, Note to p. 373.

Dr. Lind, speaking of a marine hospital erected at Jamaica, upon a most unhealthy spot of ground, says, “ The recovery of patients in that hospital was observed to be very tedious, and uncertain ; the least indiscretion or irregularity brought on a relapse. After a flux had been stopped some days, the eating of any sort of food, which had a putrid tendency, such as even a mess of *broth*, would sometimes in a few hours bring on a return of the disease, accompanied with all its violent symptoms.”

Essay on the diseases of the Europeans, p. 174.

the childrens' never parting with green stools during the time of their being suckled†.

The heat of the room ought to be so tempered, that the patient may neither be chilled with cold, nor yet suffer from sweat or burnings. She should be kept in that degree of heat that approaches nearest to the standard of health. Some have kept themselves in a constant gentle sweat, or diaphoresis, as it is called, in order to prevent a rigour, or cold shivering fit ; but it is well known that no degree of heat, let it be ever so great, will prevent the rigour, either in a puerperal woman, or even in a common ague. There have been instances of persons having rigours in the hot sweating room of a bagnio, and I have been informed that these have been the most dreadful ; rigours and even common agues are frequent in the hottest climates. The patient's skin should be soft, but not so much as moist ; her linen being damp with sweat will render her liable to catch cold ; she will be sensible of every breath of air, and cannot rise or even turn herself in bed without danger. The apartment cannot be ventilated, nor even a curtain be undrawn ; consequently she becomes weak, the fibres are relaxed, the lochia becomes accumulated and acrid, are reabsorbed into the circulation,

† Are not the four green stools of children oftener owing to weakness and relaxation in their digestive organs, and the inert quality of their bile, than to the acescency of the milk ? and, Do we not often see them change for the worse, even though the nurse has made no alteration in her diet, nor has tasted any kind of accescent food ?

culatation, and occasion a fever. Custom in this I know is much against me, as well as in many other particulars ; but I have hundreds of evidences to prove that sweating is not necessary even in the finallest degree.

Much mischief appears to have been done amongst ignorant people by confounding the ideas of perspiration\*, and sweat. The difference between them has been remarked by so great a number of authors, that quotations would be endless ; it is sufficient for common use to observe, that perspiration is that insensible discharge of vapour from the whole surface of the body and the lungs which is constantly going on in a healthy state ; that it is always natural and always salutary ; that sweat on the contrary, is an evacuation, which never appears without some uncommon effort, or some disease in the system ; that it weakens and relaxes, and is so far from coinciding with perspiration, that it obstructs and checks it.

With

\* Dr. Home has proved by several experiments, that a free perspiration does not depend so much upon the heat, as the dryness of the air ; he says, " Moisture stops perspiration in a great degree. Dr. Hales has observed that moisture has the same effect on the perspiration of plants."

Med. Facts and Experiments, p. 245.

A little farther he observes, that " by these two experiments it appears that the perspiration is greater in frost than in open weather."

Ibid. p. 246.

With regard to sweating in febrile disorders, many contrary opinions have prevailed. It was introduced with the notion of carrying off by its means the morbid matter which was supposed to be the occasion of all fevers. Later observation has however found it prejudicial in many cases ; and some have gone so far as to deny its utility in any. I shall make quotations from some of those authors\* who have considered this matter the most clearly and particularly.

From

\* "Hippocrates relates the cases of some patients, whose fevers were terminated after the eruption of sweat, whether that sweat really put a period to the disease, or only appeared at its end ; as it happened in the instances recorded, lib. 1. patient 6, 7. lib. 2. patient 7. 11, 12. in which patients the fever seems rather to be terminated by an eruption of blood than of sweat ; for sweat, so far as I can perceive, is not by Hippocrates always proposed as an instrument by which the disease is cured, but only as a mark or sign by which its event or termination may, with the greatest certainty, be prognosticated. For this reason, in those books of his which are accounted genuine, he nowhere mentions sudorific medicines ; and even in those works which are falsely ascribed to Hippocrates, there is only once mention made of a sweat procured or forced by medicines ; for the author of his second book of epidemics orders a sweat to be procured by carefully covering the patient with the bed clothes, and exhibiting meal, mixed in rich and generous wine ; nor does he even prescribe these measures as proper to be taken, except in those fevers which arise from lassitude, or some other similar cause, such as those commonly called diary fevers,

" Internal medicines for producing sweats were so little in use among the ancients, that Celsus has not a single word upon this subject. If therefore sweats are of any advantage in fevers of this kind, they seem to derive the efficacy from nature alone. During those sweats, perhaps, the peccant matter might be easily dissipated, and carried through the skin, either on account of the temperance of the climate, or by the good constitutions of the patients,

From the whole we may conclude, 1. That sweating in bed in a confined atmosphere must be very detrimental to a person in health, may bring on many disorders, but cannot prevent any.

## 2. That

patients, which were not yet corrupted by sloth and luxury : but in the present condition of mankind, we in vain expect the solution of a disease by sweat, whether spontaneous and natural, or procured by art : and I believe I may justly venture to affirm, that in violent fevers the patients are rarely restored by sweats alone.

Friend on Fevers, Comment. 3.

“ But whereas the hot regimen is still too much in use, it may not be amiss to examine a little more narrowly how it comes to pass that so many ill consequences flow from it.

“ Nature then is scarce ever able to expel the febrile matter by sweat, before it has taken up a proper time for its maturation, except in the plague ; so that sweats, which of their own accord flow largely in the beginning of a disease, do not carry off the fever, but prognosticate a long and dangerous disorder, and probably are the occasion of it. They likewise render the patient costive in the beginning, and in putrid fevers frequently cause a diarrhoea towards the crisis, whereas those persons generally escape, and most easily get free from a fever, to whom the very contrary of this happens.

“ In these climates there is no necessity that persons in perfect health should have a visible moisture on their skin, but in very warm countries, in hot days this seems to be of great service. In Egypt during the second part of the summer, every one sweats profusely several times a day, and at that season the inhabitants always enjoy the most perfect health.

“ Such an error is never more frequently committed than in giving what they call cordial and sudorific medicines in the beginning of fevers, for this method promises an easy and pleasant cure, and is agreeable to the opinion of the vulgar. Custom has made it familiar, and the patient finds himself relieved when the sweats begin to flow, and if they stop he is abundantly hotter, more thirsty, and restless.”

“ But



2. That sweats are particularly detrimental to women in the puerperal state, as they render them costive, cause a stagnation and absorption of the lochia, relax and weaken the patients, and make them so susceptible of cold, that the air cannot be renewed, nor the common offices of life be performed without danger.

3. That sweats are very detrimental in the beginning of all low nervous, or putrid fevers, but particularly those of lying in women, which if not  
in

“ But sweats which are very easily brought on in the beginning of a disease, will frequently quite disappear as it advances towards the height, so as not to be recalled by the warmest medicines ; and though they should continue to flow, they will certainly bring along with them those bad symptoms which have been mentioned before. Although the ancients, the most studious of nature, never admitted this method of practice, and the moderns, more intimately instructed in the sacred mystery of physic, always rejected it, yet it is never to be expected that the old women, who have a licence of slaying mankind with impunity, should ever suffer themselves to be taken off from their method of cure ; but it is to be wished that Physicians, who follow the guidance of reason, would throw aside their prejudices, and weigh the matter with that carefulness it deserves, and banish this pernicious method from that art which promises health to mankind.”

Glaſs on Fevers, Comment. 10.

“ Plerumque in principio morborum acutorum nocet (sudor) ; rectius tunc succedit, quando facta coctione materies morbi per cutem expelli parata est. Ipse tamen per seipsum neque petechias, neque miliarum morbum faciat, neque variolas, et periculose per calida medicamenta quaeritur, ut ne calidus quidem potus nimis tutus sit, quem vidi, de mitissimis herbis decoctum, bis intra triduum in delirium atrox hominem miliarum febre laborantem coniecisse ; qui idem refrigeratione undique quaesita levatus, denique convaluit.”

Haller, Elem. Physiol. tom. v. p. 51.



in the beginning, are always in their termination of one of those classes, if they continue any length of time.

4. That the rigour in the paroxysm of an ague is terminated by a sweat, but the continuance of that sweat will not prevent a fresh accession.

5. That when the morbid matter is thrown off by the skin, it must be an act of nature, and the most probable means of promoting that end is to keep the patient in that kind of heat which nearest approaches the standard of health, at the same time promoting a free circulation of air, that those morbid particles and the human effluvia may not stagnate about the patient, but be carried off, and their absorption prevented by an effectual ventilation.

The chamber door, and even the windows, if the weather be warm, should be opened every day. There should be no board or other contrivance to stop the chimney, on the contrary, it should be quite open, that it may act as a ventilator. The curtains should not be close drawn, that the effluvia may have the liberty of escaping. Carpets are very useful, as they render washing the room unnecessary, for moisture ought as carefully to be avoided as heat or cold, therefore it ought not to be washed upon any account as long as the patient

stays in it. The room should be brushed, and the carpets taken out every day, to be cleaned and aired.

The lying in chamber should in every respect be as sweet, as clean, and as free from any disagreeable smell, as any other part of the house. The patient should often be supplied with clean linen, for cleanliness, and free, pure, and in some cases cool air, are the greatest necessities in this situation; and, upon the strictest examination, it appears evident to me that there never was a miliary eruption produced without a sweat, nor a puerperal fever without either foul air, an accumulation of excrements in the intestines, or confinement of the patient to an horizontal position, thereby occasioning a stagnation and an absorption of acrid matter, except in cases where violence had been used, either in dilating the *os internum*, or in the delivery of the child or the placenta, or from some very great imprudence.

The sooner she gets out of bed after her delivery, the better; even on the same day if possible; she should not defer it beyond the second or third at the farthest, and then if it be winter time, it will be necessary to have a fire.

Clean, well aired sheets, should now be laid upon the bed, but by no means such as have been lain in since their washing.

If the patient have not every day a stool, one ought daily to be procured. Clysters are very proper; they will not only procure stools, but by passing along the arch of the colon, act as fomentations to the whole abdomen, without any griping or other disagreeable commotions. For this purpose warm water is generally sufficient; but if the feces be too much hardened, milk, oil, and brown sugar, or the *decoct. commun. pro clyst.* with a very small quantity of the syrup of buckthorn, may be administered: nothing of a more stimulating nature should be used; it is better to repeat these clysters, in which case their end will certainly be answered. Should the patient have an aversion to these applications, or if a clyster cannot be administered, either upon account of lacerations in the sphincter anni, or from any other cause, it will then be necessary to give a little manna, lenitive electuary, rhubarb, castor oil, Rochelle salts or magnesia. Broth clysters are very improper, as they too much encourage putrefaction, and strong purging medicines, either by the mouth or clysterwise, should not be given in the early days of childbed, as they may promote the absorption of the lochia; but when an absorption has once taken place, then purgatives may be given with the greatest advantage, to prevent the matter from being deposited upon the omentum, peritoneum, or any of the viscera. The stools, urine, and foul linen, should not be permitted to remain in the apartment.

If the lochia do not flow so plentifully as may be expected, or if they entirely stop, no irritating, forcing medicines should be used. They never do any good, and are often productive of much mischief.\* If the patient be otherwise as well as can be wished, no regard needs to be paid to this circumstance. We not only find this evacuation very different in different women, but even in the same woman in different lyings in, from which she recovers equally well. I have frequently known this discharge to stop the very first day, without the least bad consequence. If she have other complaints, the causes of those complaints must be inquired into, and the disorder remedied; if this be done, the stoppage of the lochia will be of little or no consequence, and when the cause is taken away they will sometimes flow again. It is not a primary disease: the effect is mistaken for the cause. Getting out of bed is the most effectual and safest method of promoting the lochia.

The patient's recovery does not depend upon the quantity of the discharge, for the *evacuation itself will*

\* "We have also been taught to endeavour strenuously to remove every obstacle to the regular procedure of the lochia. But it unfortunately happens that almost all the medicines recommended as emmenagogues are improper in every inflammatory state of the blood, and experience proves, that in this case all the symptoms are aggravated by their use.

"It may not be amiss to observe, that either a great or a little quantity of the lochia, unattended with other symptoms, is not to be looked upon as a disease, or meddled with."

Denman on the Puerperal Fever, p. 24.

*will not prevent* either the puerperal or miliary fever. It is well known that the laborious hard working women (who, using much exercise, seem to live in a state nearly approaching to that of nature) have not so large a quantity either of the menses or lochia as the more delicate part of their sex, yet they commonly enjoy a good state of health, and recover from their lyings in much sooner than others. They are the very reverse of those whose fibres are relaxed by a sedentary inactive life; and I have frequently observed, that such as have the lochia in greatest abundance are most liable to puerperal fevers. It must however be owned, that after these fevers are commenced, stoppages are not uncommon. All I would here inculcate is, that the danger does not arise from the smallness of the quantity of the discharge, but from its stagnation, whereby it becomes acrid, and in this state is again absorbed into the circulation. When the discharge is great, but does not weaken the patient, no remedy is necessary; when it does, an infusion of the external rind of oranges, with the bark \*, and the acid elixir of vitriol, may, during any period of the puerperal state, be given with safety and advantage. To these may be added a strengthening incrassating diet, blomange, flummery, sago, salep,

\* The Peruvian Bark has been given to a woman successfully in the quantity of a drachm every three hours, two days after her delivery, for twenty four hours, without lessening the lochia: and it has frequently been given to others during their catamenia without the least interruption of them.

Med. Transact. vol. 1. article 21. by Dr. W. Heberden.



falep, jellies of calves' feet, hartshorn or isinglass. When this disorder arises from irritations and spasms, occasioned, as is very often the case, by too great an acrimony of the fluids, opiates, and the tincture of roses well acidulated are generally successful. If the evacuation should be excessive, provided the patient be kept cool, she may be indulged with rest in an horizontal position, and more powerful astringents must be used, such as alum posset, and the lixivium martis, given to the quantity of fifteen or twenty drops three or four times a day. Linen cloths or sponge, dipt in cold vinegar‡, or water, should be frequently applied to the lower part of the abdomen, and to the loins, or what is still more effectual, an ox's bladder half filled with cold water may be applied to the forepart of the abdomen, the patient at the time lying on her back, which by its coldness, and likewise by its weight, making an equal pressure upon the uterus, helps it to contract.

If

‡ Injecting cold water into the uterus is recommended by that celebrated professor of midwifery at Edinburgh, Dr. Young, but it is a remedy I have never tried. "Verum arteriolas rubras constringendo ad hæmorrhagias sistendas optime accommodatum est frigus. Ad hoc efficiendum, applicatio topica, in partis effectæ vicinia, maxime convenit. In epistaxe, remedium apud omnes notissimum est aqua frigida, quæ ope lintei fronti vel nuchæ imponitur : nec ullum quidem efficacius invenitur. Nec rarius, neque minore successu, in menorrhagia adhibetur : interdum enim, multis aliis incassum tentatis, aqua gelida dorso, modo supra dicto, applicata speratum auxilium præbet. In lochiorum profluvio immodico & periculoso eandem multum laudat Cl. professor noster Young ; quam in uterum, per horæ quadrantem, continenter injicere jubet."



If the patient faint away † she must not be roused by volatiles, or any thing else applied to her nose, nor by wine or other cordials given internally. I have frequently known fainting fits put an immediate stop to violent floodings, by giving the blood time to coagulate in the uterine veins; and large doses of nitre \* have often afforded instant relief; which

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† “ And upon this occasion I recollected a remark of Dr. Hunter’s, which is, that the faintness which comes on after hæmorrhages, instead of alarming the bystanders, and making them support the patient by stimulating medicines, as spirits of hartshorn and cordials, should be looked upon as salutary, as it seems to be the method nature takes to give the blood time to coagulate.”

Hewson’s Experimental Inquiry into the  
Properties of the blood, p. 68.

“ From this circumstance, that the disposition of the blood to coagulate is increased as the animal becomes weaker, we may draw an inference of some use, with regard to the stopping of hæmorrhages, viz. not to rouse the patient by stimulating medicines, nor by motion, but to let that languor or faintness continue, since it is so favourable for that purpose; and also that the medicines likely to be of service in those cases, are such as cool the body, lessen the force of the circulation, and increase that languor or faintness. For in proportion as these effects are produced, the divided arteries become more capable of contracting, and the blood more readily coagulates; two circumstances that seem to concur in closing the bleeding orifices.

“ Besides giving stimulants and cordials to counteract the fainting, it is a common practice in many parts of England, to give women who are flooding, considerable quantities of port wine, on a supposition that it will do them service by its astringency. But surely, from its increasing the force of the circulation, it must be prejudicial in those cases. Perhaps many of the remedies called styptics might be objected to for the same reason.”

Ibid. 71.

\* “ It therefore shews how much languor and faintness should be encouraged in hæmorrhages, and how carefully we should avoid giving any thing that can stimulate, or rouse the patient; that the medicines that are  
likely

I suppose is owing to the power which Dr. Alexander justly ascribes to it, of almost instantly retarding the velocity of the circulation, and of surprisingly diminishing the number of pulsations; but it should be given immediately after being dissolved, as the same Gentleman has observed, that it then possesses that power in a greater degree. In constitutions that are subject to acrid putrid bile, nitre is improper, as it generally disagrees with the stomach.

If the discharge of the lochia be moderate, the patient should not only sit up often, but should every day get out of bed, staying up as long as she can without fatigue, and continuing it a little longer every day than she had done the day before. A very convenient easy chair has been invented, to which a foot board is adapted, not only preserving the legs and feet from cold, but by the means of two straps,

likely to be of service are nitre and the acids, or such as cool the body, or have the property of diminishing the force of the circulation, or of increasing that languor, or faintness; that all anxiety and agitation of mind should, as much as possible, be prevented, lest they increase the circulation, that all muscular motion should be avoided for the same reason."

Hewson's Experimental Inquiry, p. 100.

Dr. Dickson in the Med. Obs. and Inq. vol. 4. art. 16. p. 320, speaking of nitre given in the form of an electuary with conserve of roses, says, "I have found nitre too administered in this manner of singular service in uterine hemorrhages, but only so far, if my observation is correct, when there was a feverishness and hardness of pulse; for in other cases the *elix. vitriol. acid.* given in small quantities, and very frequently repeated, was attended with much greater benefit."

straps, so contrived that the back of the chair may be depressed, and the foot board raised at pleasure. By means of this contrivance, if the patient be faint or fatigued with sitting up, she may be greatly relieved, and her posture made as easy as possible. As the chair runs upon castors, it may be readily moved, and by its assistance the patient may be enabled to continue a long time out of bed without inconvenience.

As the invention is not generally known, a drawing of it may perhaps not be unacceptable to my readers. [Vid. Plate I.]

## P L A T E I.

A perspective view of an Easy Chair, the back part let down and the foot board raised, which has been found very useful for lying in women and sick persons.

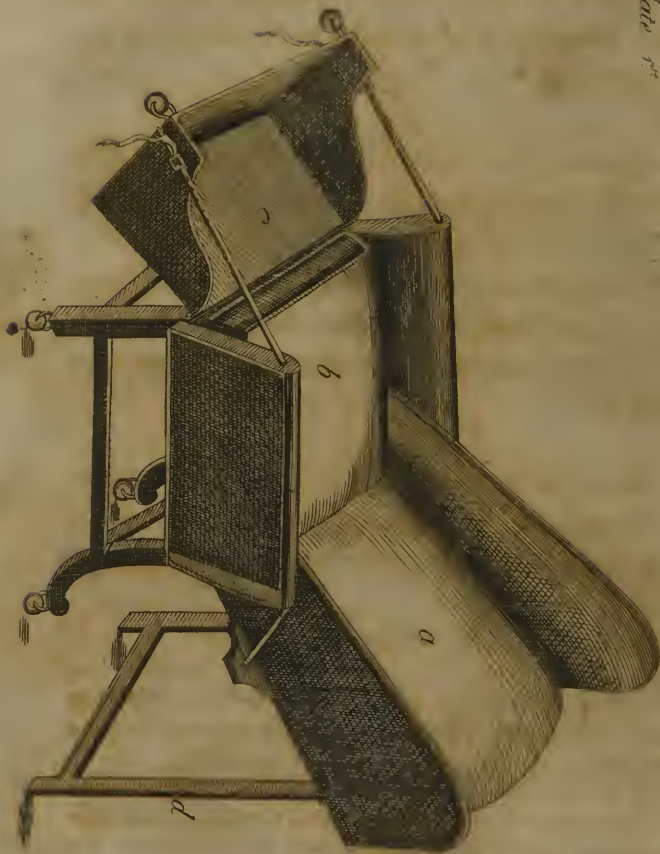
- a. The back of the Chair.
- b. The seat.
- c. The foot board.
- d. A support for the back of the Chair, which is only useful when the back is let down, and which is fixed to the chair by hinges.

N. B. Straps of garth web on each side of the Chair pass through the arms, and are fixed to the back and foot board.

The breasts generally require great attention, especially during the patient's first lying in. If she proposes to suckle her child, it ought to be laid to them early, before the milk can have stagnated in them, or they can have acquired any great degree of hardness. It will be beneficial both to the mother and child, if this be done in a few hours after delivery ; and this is most consistent with the operations of unassisted nature.

If the patient have not suckled any former child, the infant will probably meet with difficulties in fastening







fastening on the nipples. In this case the breasts must be gently drawn by a skilful person, and if her art should fail, cupping glasses\* of a proper form and size should be applied, but no violence should be used. Where the patient will submit to this, and it is done with judgment, except the breasts have met with accidents, the success is almost certain.

To prevent the stagnation of the milk, the breasts should be emptied four or five times a day.

If the patient's own child cannot do this, some other infant should be applied, or we should have recourse to an able person well accustomed to draw breasts ‡.

I am well acquainted with a family so dexterous in this art, that an indurated gland or gathered breast was scarce ever known under their management.

\* “*Papillæ, ex media convexitate mammarum eminentes, multum variant crassitudine, & longitudine in diversis mulieribus. Sæpius contingit, ut a loricis, quas pessimo more gestare coguntur puellæ sic deprimantur papillæ ut vix emineant; imo aliquoties vidi, subfedisce penitus, ita ut loco eminentis papillæ appareret foveola in mamma in qua delitesceret. Impossibilis tunc est lectatio, nisi educi posset papilla; quod sæpe feliciter obtinetur, si graviditatis tempore sæpius applicetur parva cucurbitula, ex qua antliæ pneumaticæ ope educitur aer, tunc enim depressa papilla exfurgit, & dum sæpius hoc tentatur incipit imminere magis magisque.*”

Van Swiet. Comment. Sect. 1338.

‡ The elastic vegetable bottles are not in general sufficient for this purpose.

ment. Their mode of operation is so very easy as to afford rather a pleasing than a painful sensation; and I have been informed by those who have experienced it, that they could easily fall asleep under the operation. The method of these practitioners has been kept a secret, and as yet has only been transmitted from the mother to the daughter. Having considered this matter fully from comparing what I have seen of their practice with that of others, and from the conversation I have had with those who have not only been under their care, but under that too of less skilful persons, I am very certain the whole art consists in nothing more than this: the whole breast and nipple being stretched out, so that the breast may assume a conical form, the tubes become perfectly straight and open; in this situation a hand being applied to each side of the breast, the milk is forced out at the same time that the person's mouth is applied to the nipple. By this method a very moderate suction only is required; and that violent degree of it upon which the generality of operators place their dependance, by which the nipple is frequently excoriated, and great pain given to the patient without her breast being completely emptied, becomes totally unnecessary.

If the breasts grow hard and knotty they should be well rubbed with a soft hand moistened with oil,  
and

and this operation should be repeated two or three times a day. In these cases I have also applied Goulard's vegeto mineral water with advantage\*.

Thick rings, made of bees' wax, and fitted very exactly to the nipples, are often preventive of fissures, by keeping the nipples elongated, and denying them a liberty of shrivelling up into corrugations. If there be too much milk, these rings are useful in causing it to run out; but they should be made like real rings, and not like caps, as is frequently done by persons ignorant of the reasons for which they are used, and who imagine there is some specific virtue in the wax itself, whereas they only act mechanically. They should be applied immediately after the child has finished its suction, and be put on so that the ends of the nipples may protrude themselves through them. These rings, however, ought not to be used when the milk runs out in too great quantities.

If fissures be formed, and be attended with a sharp acrimonious humour, the acrimony may be greatly blunted, and the parts healed by the application of a mucilage composed of gum arabic and a decoction of cooling seeds.

If

\*Vid. Aikin's Observations on the external use of Preparations of Lead, Part II,

If the patient do not suckle her child, no method should be used either to repel the milk or invite it into the breasts, but it should be left entirely to nature\*; she should live very abstemiously, little or no animal food, no strong liquors should be allowed her, and the intestinal canal should be kept thoroughly open.

Let the directions I have given be strictly observed, and I will venture to assert that there will be neither puerperal nor miliary fever, nor will the milk fever be worth notice, except it be her first lying in. This may be said to be a bold assertion. I am well aware of the uncertainty of the medical art, and of the difficulty of ascertaining facts, especially by those who, neglecting nature as their guide, seem rather to take pleasure in obstructing her in her operations. I know likewise the difficulty there is in bringing patients to conform to proper directions, and the still greater one in inducing nurses, and other attendants, to follow the rules which are prescribed them.

I am not now amusing the public with idle theories, and speculative reasonings; I am treating on an affair of consequence, not only to the female sex, but to mankind in general. I speak from facts,  
from

\* Those who wish to see this matter more fully discussed, I must beg leave to refer to my examination into the propriety of drawing the breasts of those who do, and also of those who do not give suck; published along with an inquiry into the nature and cause of that swelling in one or both of the lower extremities, which sometimes happens to lying in women.

from facts which cannot deceive me, founded upon my Father's experience of more than sixty years, and upon my own of above two thirds of that period. I appeal to the inhabitants of this town and neighbourhood, where, if I be guilty of misrepresentation, I must meet with the imputation I deserve.

It would be easy to produce a long list of successful cases; successful cases avail nothing, where the unsuccessful are concealed. It is evident that by much the greater part of the sex will do well, even under the worst of treatment. The practitioner therefore can only judge from the result of general practice; and here, for the sake of the most important argument I can use, I am obliged to refer to a fact, which otherwise could scarce be mentioned without a shew of ostentation, which I despise. Out of the whole number of lying in patients whom I have delivered (and I may safely call it a great one) I have never lost one, nor to the best of my recollection, has one been greatly endangered, by the puerperal, miliary, low nervous, putrid malignant, or milk fever; nor have any of these fevers ended in madness\*, or any other disagreeable complaint.

\* "It is not only in lying in cases that madness is sometimes in consequence of the neglect, or ill treatment of this fever, for, in other persons it too often terminates in this manner. It is therefore well worth observing, since experience confirms the fact, that this sort of madness, which follows this low fever, will by no means yield to the common methods for the cure



plaint. Some few indeed have had the puerperal fever, but this has evidently arisen from nonobservance of the rules above laid down. Some few too have had miliary eruptions, proceeding from the same cause, though not one, unless my memory greatly fails me, ever had what properly might be called a miliary fever. Where feverish symptoms have appeared before delivery, they have been happily extinguished. The reader may perhaps imagine, that by a different treatment disorders may take different forms, and appear under different denominations. That I may not seem to shelter myself under so poor a subterfuge, I am necessitated to make a farther declaration. I never lost a patient either during her month, or at any other time, where there was the least reason to imagine her death was the consequence of her lying in. It must however be remembered, that in this last declaration I speak only of natural parturitions. I would by no means be understood to include in this account preternatural cases, or such labourious ones as have required the use of instruments; those of floodings, or convulsions, or those in which consumptions have taken rise before the patient's time of delivery. I only mean likewise those patients whom I have myself attended during the  
time

of madness, because great evacuations, as purging, vomiting, and especially bleeding, always heighten the disease, and soon either destroy the patient, or bring on an incurable foolishness."



time of delivery. After fevers have been created I have been unsuccessfully called in to those delivered by others. I have however the pleasure to observe, that those fevers, in this neighbourhood at least, have of late years greatly decreased. This must chiefly be attributed to a system of management lately introduced, much to the honour of our present practitioners, and of those nurses who seem sensible of the advantages arising from it; and I must here do my brethren the justice to assert, that I do not know a place where midwifery is more successfully practised. Perhaps some general cause may contribute to this success amongst the *poor* in this town, viz. their eating very little animal food, and living chiefly upon vegetables. Potatoes are a principal part of their diet, on account of their goodness and cheapness in this country. We have butter milk likewise in the greatest perfection, and it is drank by the common people both in sickness and in health. This liquor when properly managed has a pleasant acidity, and very happily contributes to prevent and cure any disorders arising from putridity. In many parts of this kingdom it is so ill prepared, that the poor people will not drink it, and it is either thrown away or given to the swine. We are likewise well supplied with coals, which is an article of consequence, as fires prevent moisture, and keep up a circulation of air, and there is little danger of the

poor people keeping such large fires as to be overheated by them. Does not the pump water\* of this place, by being impregnated with selenitical and aluminous salts, contribute in some degree to prevent putridity, whatever bad effects it may have in promoting disorders arising from glandular obstructions? It may be worthy of observation, that dysenteries are almost unknown in this town.

Is it not one cause of the frequency and fatality of the puerperal, jail, hospital, and other putrid fevers, in London, that so many of the inhabitants drink, and use for most culinary purposes, the New River water, which is frequently replete with putrid vegetable and animal substances, or the Thames water†, which is full of all kinds of putrid matter?

It

\* Vid. Dr. Percival on the Pump water of Manchester, *Essays Med. and Exp.* p. 288.

† “Most pump water is as incapable of changing and of being spoiled by keeping as distilled water; for though it be loaded with various foreign particles, yet it seldom has any, or at most but a small proportion of a vegetable, or animal nature, and therefore it will always remain the same. This property of water is not so much attended to as it ought to be by sailors, who usually supply their ships with river water taken up near great cities, and then keep it in wooden casks; the necessary consequence is, that it soon putrifies, and most probably contributes very much to the occasioning of those putrid distempers with which sailors are so apt to be afflicted. Pump or spring water would be greatly preferable, and if they could keep this in glass or stone bottles, or earthen jars, they would find it, after being carried round the world, just the same as when they set out.”

*Med. Transf.* vol. 1. p. 19. by Dr. W. Heberden.

“The

It may seem strange, but it is nevertheless true, that the puerperal and miliary fevers are more common and more fatal in London than in the country; and yet it must be acknowledged that in general the ablest men in every branch of the profession resort to the metropolis: But our wonder will cease when we reflect that not only the general causes in large populous towns will operate, but likewise that the articles of air, diet, dress, &c. are left to the management of the nurses in that city, who claim it as a kind of prerogative, and it is next to sacrilege to encroach upon their privileges. Whether this circumstance has been considered in the important light it deserves, or whether the success of a reformation has been despaired of, I will not pretend to determine. The nurses in London are a numerous and powerful body, and an attempt to reform their ancient customs might be

“ The great tendency in the Thames water first to ferment, and then to become pure, in long voyages is well known, and it is probable that this quality is owing to the extraordinary quantity of putrid matter with which it is impregnated at the place where it is taken up, viz. a little below London bridge.”

Pringle's Appendix, p. 67.

Sir John Pringle in his *Observations on the Dysentery* says, “ Having observed in my private practice that some were better for drinking Bristol water, not only at the spring, but at a distance, I desired one of my patients (who had come from the Havannah) to observe whether he found any difference between drinking the river water and the pump water in this city; and after some trials he assured me that he was less liable to a return of his flux when he used the latter.”

Obs. on the Diseases of the Army, p. 285.

be looked upon as an open attack upon them, a violation of their rights, and an actual declaration of war. A young man just coming into business might justly think it too daring an attempt to encounter them ; he would in all probability be unequal to the task, and his future progress would be stopped, by making such powerful enemies. The man in full and established business could not perhaps spare so much time as would be necessary, for it would require a very frequent and constant attendance upon his patients to see that the nurses did their duty ; and by such an attempt he might lose much, and gain little, except trouble and opposition.

But the fatality of these fevers is not confined to the metropolis. There are several country towns where puerperal fevers are very fatal, particularly the town of Northampton, a place otherwise remarkable for its healthfulness, and situated in an open, champaign country ; and I am acquainted with two gentlemen in another town, where the whole business of midwifery is divided betwixt them, and it is very remarkable that one of them loses several patients every year of the puerperal fever, and the other never so much as meets with the disorder : but their methods of treating their patients, as I am informed, are very different.

From

From what has been above remarked, I imagine it will appear that where a due observance is paid to nature, not only during labour, but for some time afterwards, there is not the least danger to be apprehended from natural parturitions; that most, if not all of those disorders which are usually supposed to be peculiarly incident to the puerperal state, are either the effects of mismanagement in the accoucheur or nurses, or else arise from the patient's own imprudence; that they may in general be truly said to be fabricated, and may always, except in lying in hospitals, be avoided.

In hospitals indeed, where numbers are crowded together, not only in the same house, but in the same ward, the puerperal fever\* cannot so easily be prevented, though the miliary fever undoubtedly may.

## A

\* Van Swieten, in his Commentaries upon Boerhaave's Aphorisms, Sect. 1331, gives the following quotation from Peu. "*Observata fidelia confirmaverunt, putrida hæc miasmata nocuisse puerperis, dum in nosocomiis decumbabant: Magnus enim illarum numerus peribat; & suspicari ceperant nosocomii præfecti, ignorantiam aut negligentiam obstetricantium in causa esse. Plura secabantur cadavera defunctorum, & corporis interiora abscissibus plena fuerunt inventa. Sapiens medicus, omnia attentè examinans, hanc causam invenit, quod sub conclavi puerperarum decumberent vulnerati. Confirmabatur ejus sententia inde imprimis, quod aucto vulneratorum decumbentium numero cresceret puerperarum strages, minuto pariter decresceret. Aer humidus, tam calidus, quam frigidus nocebat; siccus autem proderat: Notum enim est, humidum acrem putredini favere, præcipue si simul calidus fuerit. Dum autem puerperæ locabantur in conclavi inferiori, non observabatur anplius hæc strages: Aer enim, putridis exhalationibus imbutus, levior est, unde superiora petit.*"

Peu le pratiq. des accouch. p. 253.



A Gentleman whose veracity I can depend on, informs me that he attended a small private lying in hospital in London, in the latter end of May, June, and the beginning of July, 1761; during which time the puerperal fever was very fatal there; that to the best of his recollection they lost about twenty patients in the month of June; that during this month he himself delivered six women in a short time in the hospital of natural births, and they all died: He was so shocked with the loss, that he desired the gentleman who had the care of the hospital to deliver some of those who should next be in labour, which he did, but they met with no better fate. They buried two women in one coffin to conceal their bad success. Several gentlemen of the faculty were invited to the hospital to inquire into the cause of this great fatality; but I could not learn that they were able to account for it in a satisfactory manner\*.

Buildings might be raised on purpose for the reception of lying in women, and so contrived that  
the

\* The following passage from Mr. Doulcet's memoir before mentioned, is a further confirmation of the opinion I have advanced. "The memoir upon which the Royal Medical Society has been consulted by government, and of which we are now ordered to give an account, contains the description and treatment of a disease which has attacked lying in women at the Hotel Dieu at Paris; and which has made its appearance in that hospital at different times, but more frequently than ever since the year 1774. The late Mr. Doulcet found a method of curing this disease, extremely simple, and which has never yet failed of success since it has been employed; although before this method was made use of, the disease had always been fatal to every woman who was attacked with it in that hospital."



the air might be kept in constant circulation in such a manner that there would be no danger either of the creation or communication of this ill-order. The expense of such edifices would be rather greater than usual. The rooms must be lofty, open galleries with unglazed windows should run through the whole buildings. The wards should be all upon the centre floor, and they should have no doors except into the galleries, and those doors should be opposite to the windows in the wards, that there may be a thorough ventilation of air when the windows are opened. In the upper part of the doors should be several holes to let out the foul air.

The ground plans should serve for offices, and the upper stories be converted into lodging rooms for nurses and servants. An entire apartment should be allotted to every patient, or else if large wards were constructed the windows should be placed very high, with the uppermost sashes made to let down. Large apertures should be made as high as possible in the partition wall which divides the wards from the gallery, after the manner of the Leicester infirmary ; and in the upper part of some of the windows the farthest from the fire should be fixed a few leaden lattices to admit fresh air, or what is still better circular, or, as they are called by some, Æolian ventilators. I do not suppose  
that

that the superior advantages of these ventilators over a leaden lattice consists in admitting more fresh, or extracting more foul air ; but by their circulatory motion they prevent the air from rushing directly upon the persons in the room, and thereby giving them cold. These should be kept open night and day, that a constant circulation of air may be maintained : For it will not be sufficient if a door, or even a window is opened a little in the middle of the day only, of which whoever will take the trouble to go into the ward of an hospital early in a morning will thoroughly be convinced, the air having been rendered so foul and disagreeable by a number of people breathing in it the whole night, as to make the atmosphere very unwholesome, not only to lying in women, but to any other person.

Several air pipes made of wood of about six inches diameter fixed in every ward, and passing through the cieling and roof, have been found very useful in the Manchester infirmary. I have been in a great number of hospitals, but I do not know any so free from foul air as that infirmary, which may, I think, be easily accounted for. It is situated upon the highest point of ground about the town ; the building is long and narrow, having no inner courts ; the principal wards are fifteen feet high, and the largest of them do not contain more than  
thirteen

thirteen beds. A large gallery runs through the whole length of the house, and that is intersected by the chapel and the great stair case which lie open to it ; in these are windows, east, west, north, and south, which are set open every day as often as the weather permits. In the galleries, and in many of the wards lead lattices are fixed in the windows. Holes are cut in the upper part of the doors, and the doors are generally open in the day time. In the largest wards are openings in the wall likewise to admit fresh air.

As a proof of the advantages of an hospital well ventilated, it may not be amiss to compare the success attending it, with that of a small crowded house, hired for the reception of patients at the first institution of this charity, before a proper building could be got ready.

In the small house 403 patients were admitted in the space of three years, out of that number 22 died in the house, which is about the proportion of one in  $18\frac{1}{3}$ . In the present infirmary between the 24th of June, 1755, and the 24th of June, 1771, 6459 in patients were admitted ; out of that number 263 died in the house, which is nearly one in  $24\frac{1}{2}$ . This difference of success must, I think, be principally owing to the plenty of room and free ventilation, for the persons concerned when this charity

charity was in its infancy, were more careful both in regard to the admission and discharge of patients than they have since been, lest a long list of deaths should have brought the infant charity into disrepute. Possibly it may be urged as an objection to these calculations, that many of these in patients were discharged, or made out patients at a time when there were little expectations of their recovery ; which is certainly very true : But in answer to this, it must be remembered likewise, that as all accidents are admitted without reserve, many are taken into the house in a dying condition, and several have died before any means could be used for their relief ; and the calculations of those who died in the former, and in the present infirmary were made by the same rule, therefore the objection, if it be one, lies equally against both.

Besides air pipes carried through the roof, others may be let into the chimney of the ward above, as has been practised in St. George's hospital.\*

#### Moisture

\* " In wards which are close it has been found that one or two square holes of about six or eight inches diameter, cut in the ceiling, and a tube made of wood fitted to it, and carried up into the chimney of the ward above, so as to enter above the grate, is one of the best contrivances for procuring a free circulation of air, as the foul air, which is lightest, and occupies the highest part of the ward, finds a free exit by these tubes. We have such tubes now fixed at St. George's hospital. A hole cut above the door of the ward, or in the upper part of the windows, and one of what are called chamber ventilators, fixed in it, will answer, where holes cannot be conveniently cut in the ceiling."

Moisture \* is more to be guarded against than cold. Dr. Lind observed that new ships were more unhealthy than old ones, owing to the moist exhalations from the wood.

I am afraid no methods will be effectual where several lying in women are in one ward. It will be very difficult to keep the air pure, dry, and sweet, and at the same time to accommodate the heat of the ward to their different constitutions and symptoms. If separate apartments cannot be allowed to every patient, at least as soon as the fever has seized one, she ought immediately to be moved into another room, not only for her immediate safety, but for that of the other patients. Or it would be still better if every woman was delivered in a separate ward, and was to remain there for a week or ten days, till all danger of this fever was over.

## I

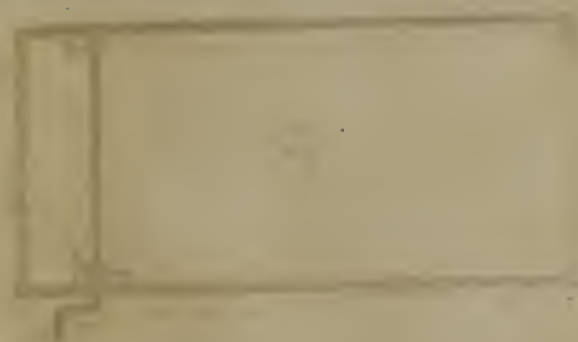
\* "Heat and moisture become, when joined, the parents of putrefaction; to which if we add imprisoned animal steams, we perhaps form no imperfect idea of the efficient cause of that sickness, which generally prevails in large new built ships: And however simple the investigation may be, the analogy it bears (the aggravating circumstance of diseased perspiration excepted) to all experienced sickly climates, seems abundantly to confirm the solution. Those who have seen the effects of unseasoned timber on board, will not think the quantity of vapour arising from the sappy wood trifling or innoxious. Thus, especially during the night, we, as it were realise the baneful dews of the torrid and other indisposing climates, and create that very constitution of air, whose consequent diseases prove so often fatal to our fleets."

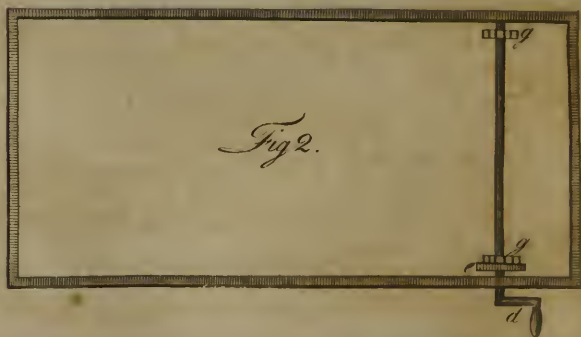
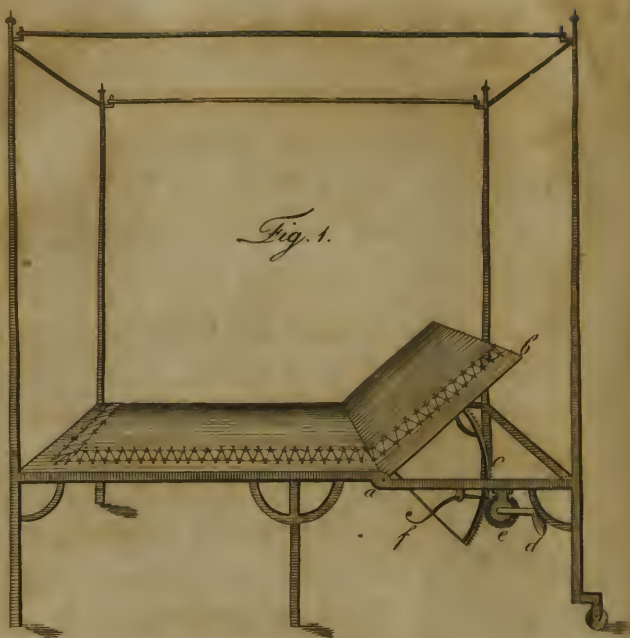


I am not ignorant of the use of Hales's and Pringle's ventilators, which are exceedingly proper, and should, together with every other assistance for clearing the wards of foul air, be made use of; but the best of them alone is not to be depended upon. I have frequently been in an hospital, in which, notwithstanding there is an extremely good ventilator, the air is foul and disagreeable, and the house is scarcely ever free from the hospital fever. / In this hospital, compound fractures, and fractures of the skull, though under the care of the ablest surgeons, are seldom successfully treated.

In lying in hospitals, and I may add in every hospital, the bed stocks should be of iron. [Vid. Plate II.]







P L A T E II.

*Fig. 1.* A perspective view of an Iron Bedstead made at Birmingham, the invention of Doctor Vaughan, an ingenious Physician at Leicester. It serves every purpose of a bed chair or dozer. The patient may be raised and lowered in it to any pitch, with less fatigue than that which usually arises from other methods ; it is therefore of great utility to sick persons and lying in women.

- a. b. The upper part of it, moving upon the hinge (a) to correspond with which there is another hinge upon the other side of the bed.
- c. A rack wheel, which is also answered by another on the other side.
- d. The handle which gives motion to the arbor, pinions, and click wheel.
- e. The click wheel.
- f. The click.

*Fig. 2.* The plan of the bedstead.

- d. The handle.
- e. The click wheel, fastened to the pinion.
- g.g. Pinions of twelve teeth each entering between the teeth of the rack wheels which are connected by an arbor from g. to g.

Mr. Alexander Brodie, Whitesmith, near Temple Bar, has obtained a patent for a contrivance

something similar to this, which he calls his new invented Bedcrew Lever, calculated for the ease of sick and gouty people, or childbed women; which raises them from a lying to a sitting posture, and lowers them again so gently as hardly to be felt. His Lever, he informs me, is moved by a screw fixed at the foot of the bed.

Whenever the patient has recovered from this fever and is removed into another room, the bedding and curtains should be washed, the floor and wood work should be cleansed with vinegar, and it would still add to the salubrity of the apartment, if it were stoved with brimstone, or what is much more effectual, if explosions of small quantities of gunpowder were made in it after the manner described by Doctor Lind, which driving out the foul air, a fresh current immediately rushes in to fill up the void space occasioned by the explosion. The Doctor seems to think that the good effects of it in purifying ships, or other infected places, is owing to the antiseptic vapour arising from it; but, Is it not more probably owing to the explosion? He says he has found this method effectual in purifying the air, and that it is inoffensive to the lungs. The steams of warm vinegar applied to the patient's nostrils are very refreshing; but fumigating the wards with it, as has been advised by many authors, has not, I believe, proved so antiseptic

septic as was at first imagined ; which may be owing probably to the following cause :

In distilling vinegar it is very well known that what comes over at first is mostly water, to the amount of a third or fourth of the whole quantity ; this is generally thrown away as useless, and the very acid parts which are supposed to be productive of the greatest good, are not to be raised without a very considerable degree of heat. So much watery steam therefore being diffused all over the room, may tend to increase those complaints it was designed to remedy ; for it is universally allowed that heat and moisture when joined are the parents of putrefaction.

I have my doubts in regard to the utility of dry or moist fumes\*, or sprinklings in general, such

\* Doffie, speaking of the Murrain, says, " But these fumigations, frequently repeated as they were for this purpose, in close places where the beasts were confined, were not only ineffectual to that purpose, but noxious in a considerable degree, as being very conducive to the prevalence of the contagion. For being in general made with bodies that afforded an acrid steam, such as sulphur, vinegar, tobacco, or terebinthinate substances, they injured the respiration of the beasts, and thence diminishing the animal strength, rendered them more disposed to be affected by the contagion. A multiplicity of facts confirm the truth of this remark, as it appears from nearly all the accounts given, that the greater number of beasts have been lost where means of this kind have been most employed. The medicating the cattle externally, by rubbing them with sulphur, gunpowder, tobacco water, and other substances, do less harm than the fumigations, but not more good, as experience has largely evinced,

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such as camphorated vinegar, tobacco, nitre, pitch, tar, resinous or aromatic gums, sulphur, or frankincense, during the patient's stay in the room. Without the free admission of air I am apprehensive they will operate to no good purpose. If a sufficient quantity of free air be admitted they will seldom be necessary. And if by their means the air is either heated or moistened, they will certainly be prejudicial: But all these methods may be used with advantage if there be no patient in the room.

If the lungs be inflamed, or the patient have any difficulty in breathing, the receiving such acrid steams or fumes into the lungs would certainly be of bad consequence.

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"A free respiration of undepraved air is essentially necessary to the strength of the beasts, in order to their resisting the effects of the contagion. It has appeared from a number of observations which are recorded by the writers on this subject, that the cattle which have been kept out in the air, when the weather was not inclement through too much cold or moisture, have been less subject to take this infection, and recovered in greater numbers when seized with it, than those which were housed. In Denmark during the terrible visitation mentioned above of this disease in the year 1759, many of the boors attempted to preserve their cattle from the infection by the fumes of tobacco, which they continually smoked in the cow house, even sitting up the whole night in turns for that purpose in the midst of them. But it was remarked that scarcely any of the cattle so treated avoided the contagion and death in consequence of it."



In puerperal women perfumes\* have been known to bring on dangerous symptoms, and I am afraid that all these methods can only tend to deceive by concealing, instead of correcting the vitiated air.

Heat, moisture, stagnated air, and human effluvia, such as sweat and the perspiratory matter from the lungs and the skin, &c. are the grand promoters of putrefaction; without these obstacles can be removed, every attempt to correct the vitiated air will not, I am afraid, avail. A probable method is proposed by Dr. Alexander† of placing large quantities

\* “Fragrantes odores, quibus multi adeo abut solent, ut etiam mutatis vestibus tota cutis illis imbuta maneat, turbant sæpe adeo puerperas ut mox sequantur enormes capitis dolores, deliria lochiorum suppressio.”

Van Swieten. Comment. Sect. 1331.

† Alexander speaking of putrid distempers, says, “As the breathing of cool fresh air seems above all other things a *sine qua non*, directions to supply the patient plentifully with it can never be too frequently, or too strongly inculcated: Where this is impossible to be done, as in jails, the holds of ships, &c. every method we are capable of mentioning should be tried to correct and destroy the virulence of these putrid particles, which cannot possibly be dislodged. Authors have from time to time contrived a variety of things for this valuable purpose; such as burning aromatics in, or sprinkling the room with them, washing the room with vinegar, with spirits, &c. It does not appear however upon the strictest inquiry, that these methods have been attended with any remarkable, nor indeed with any visible success. Their intention indeed is certainly a very rational one, viz. to impregnate the whole air of a room with antiseptic matter, in such a manner that the patient may draw a good deal of it into his lungs, at every inspiration. But as their having hitherto done so little good, gives ground for a suspicion

quantities of fermenting antiseptic mixtures in different parts of the room. In putrid fevers, and in the putrid sore throat I have frequently advised patients to breathe the fixed air arising from effervescent mixtures. In several the use of it was attended with manifest advantages ; nor did the least inconvenience accrue to any, though some of them were very tender people, and had weak lungs, and one in particular was a young lady who had a putrid sore throat, and had been subject to a cough and spitting of blood, and no other remedy was made use of, except gentle vomits, salt of wormwood and juice of lemons taken into the stomach during

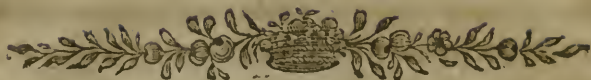
suspicion that they have either in this way not been intimately enough blended with the air, or not blended with it in a sufficient quantity, I think other methods ought to have a fair trial also, especially as there seem to be others better calculated for rendering any antiseptic matter more light and supportable by, and more diffusible through the air of a room.

“ It was observed before towards the beginning of this Essay, that Dr. Macbride had sweetened several pieces of putrid meat by suspending them in the steams arising from fermenting antiseptics ; and this methinks furnishes us with a hint how to endeavour to correct the air of a confined place, and render it antiseptic, where patients with putrid diseases are ; which is by placing large quantities of fermenting antiseptic mixtures in different parts of it. If this expedient should not be found to answer, a still farther trial may be made. Let a large quantity of a decoction of bark, camomile flowers, &c. when in the act of fermentation, into which it may be easily brought, be put by the patient's bed side, and his head supported over it, so as to breathe the steam as often, and as long at a time as can be done. Should this method produce any good effect, it might very easily be improved by means of a machine contrived to convey the greatest part of the steam arising from such a mixture, into the patient's lungs.”

during the act of effervescence, and antiseptic gargles. I have likewise used it with advantage externally in putrid ulcers, by receiving the fixed air arising from such effervescing mixtures upon the affected part.

Notwithstanding what I have advanced for the necessity of free air, and the cool regimen, yet I must caution the young practitioner against exposing his patients too suddenly to the cold air, after being much heated, which would be apt to cause obstructions and fevers ; and although great advantages have accrued from the use of acids, aculent liquors, and fruits, yet it must be observed that they ought not to be used where the bile is deficient, either in quantity or quality, where an acid acrimony abounds in the *primæ viæ*, or where the patients have found by experience that they disagree\*.

\* I must refer those who would choose to see the affair of hospitals further discussed, to a very sensible pamphlet lately published by my worthy friend Dr. Aikin, entitled, *Thoughts on Hospitals*.



## C H A P. VII.

## OF THE CURE OF THE PUERPERAL FEVER.



HENEVER a lying in woman is seized with a rigour or cold shivering, succeeded by a hot burning fit, and terminating in a sweat, we should be very attentive to her, as much depends upon the management of the patient, during the continuance of these symptoms ; for by a proper treatment the disorder may frequently be stopped in its first stage, and farther mischief prevented. I do not apprehend the cold fit to be of the dangerous consequence usually imagined. I never knew it fatal\*, and those authors who have mentioned it

as

\* " I never saw a person die in a cold fit (speaking of the ague) but have known several carried off in the hot one by strong convulsions, or delirium and other symptoms, I am clearly of opinion that it is the hot fit, or fever, which

as such, have not, I believe, spoken from facts falling under their own inspection. If it have ever proved so, it must have been under very extraordinary circumstances. We need not particularly guard against this symptom by two warm a regimen, much less need we do any thing when it is actually existing that may be of pernicious consequence in the future progress of the fever; and though the patient according to her own sensations be colder than in health, yet she is seldom in reality so. For by several experiments made by \* Dr. Home in the cold, and even shivering fit of an intermittent, it appeared that the heat of the patient by Fahrenheit's thermometer was 104 degrees, whereas that of a person in health seldom exceeds 98 †. In some agues the thermometer applied to the patient's body sinks below the standard, as was found in the Edinburgh infirmary, but this happens in very violent cases only.

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which not only often endangers the patient's life, but also in the most common cases of intermitting fevers, by its continuance, weakens and impairs his whole habit of body."

Lind's Advice to Europeans, Appendix, p. 313.

\* Med. Facts, p. 221.

† During the cold fit of an ague, the heat is considerably increased. Swenke in his *Hæmotologia*, says, "That the heat in the cold fit is less than the natural heat." But his experiments, perhaps, were made at the first approaches of the cold fit, when the obstructions in the capillaries are considerable, and the increase of circulation inconsiderable.

Ibid. p. 227.



In the advanced state of most fevers, patients are often very good judges of their own heat, and will frequently call out for cold air, which they find very refreshing. But as this is not always the case at the very beginning of a fever, they ought to have some person to feel their bodies many times in a day, in order to regulate the heat of the room, and the quantity of clothes they are to have upon them. During these symptoms the patient should be allowed no spiritous liquors, ale, wine, or wine whey, no broths, or animal food, no cordials, volatile salts, or stimulating aromatic spices; and indeed the less food she takes the better, either liquid or solid, during the continuance of the cold fit. At the beginning of the fit, if she be really colder than in health, warm flannels, bags filled with toasted grains, bottles with hot water, or hot bricks, may be applied to the patient's feet; but what is of more consequence, her limbs should be gently rubbed with a warm hand, or with flannel, to prevent the blood from stagnating in the capillaries, and some additional clothes should be laid upon the bed, particularly upon the legs and feet. It must however be remembered, that these clothes should be taken away as soon as ever the hot fit comes on, at which time an emolient clyster should be injected, and great care taken to supply her with plenty of small liquors, such as teas of all sorts, thin water gruel, butter milk, tamarind, verjuice, or two milk whey,



whey, barley water, or decoct. pectoral *very little warmed*, or even entirely cold\*. The room should now be supplied not only with plenty of fresh, but of cold air. The bed curtains should be undrawn, that the bed as well as the room may be frequently ventilated. To ascertain the degree of cold necessary is impossible. The patient's situation, the violence of the fit, and the mildness or severity of the season must determine it. It will however, *in general*, be good to reduce the degree of the patient's heat as near as possible to the standard of perfect health. The sooner this is done, and the nearer her heat is brought to this standard, the milder will the succeeding symptoms be, and the sooner

\* In the case of Georgias's wife in Larissa, which Hippocrates has given us, who had a fever for the three first days of her lying in, attended with great thirst and loss of appetite, he says, "The coldest water was of service to her, but wine by no means."

On Epidemics, Book 5, Case 11.

Doctor Kirkland relates the case of a woman in the seventh month of her pregnancy, who was seized with a pleuro peripneumony, attended with many alarming symptoms, when bleeding, blistering, and other proper remedies, were employed to advantage; but she received great relief from keeping out of bed several hours every day, in a large room, filled with cold air, by the windows and doors being set open, and when she was supported by pillows upon the bed, for she could not lie down, she had but little more than a sheet to cover her. At first she drank cold water with a toast, in moderate quantities; but afterwards, when the violent heat abated, and she began to expectorate, the liquids she drank were very properly ordered to be made rather warm.

Reply to Maxwell, p. 86.

fooner will the sweating fit\* come on ; which if it be spontaneous, and not forced by hot air, too many clothes, hot liquors, or hot medicines, will in all probability terminate the disorder, but though liquors given perfectly cold are proper during the  
hot

\* Mr. Alexander, of Edinburgh, in his *Experimental Essays*, has given us several experiments on sudorifics. He says, " These experiments seem clearly to prove, that there is a certain degree of heat, which may be called the sweating point, always absolutely necessary to produce that evacuation, and that the farther the heat of any person is advanced above, or reduced below, this standard, the farther he is removed from any possibility of sweating. But, although there is a standard degree of heat, at which, and perhaps at no other, a sweat can be produced, yet we may reasonably conclude that this degree is not the same in all persons, nor in the same person at all times, but that it rather differs, according to the difference of constitutional heat, and other circumstances."

*Experimental Essays*, p. 166.

" That profuse sweating is more destructive to the natural heat and strength, than even pretty large bleeding, is a truth which seems never to have been sufficiently attended to in practice ; and it is no very uncommon thing to see a person thrown into a large and continued sweat, without any apprehension of danger, when at the same time were he to lose a single ounce of blood, it would be reckoned highly imprudent, as detracting from that strength which ought to have supported him in the disease. How far this is reconcileable to common observation, and the feelings of every one who has been in these circumstances, I shall leave to the judicious to determine.

" Dr. Huxham, that careful observer of nature, is the only author I have met with who seems to have been fully aware of the fatal consequences of large sweating in low putrid distempers, and accordingly exclaims against it in the keenest and most nervous manner, as having a very direct tendency toward the destruction of the patient. But I carry the matter still farther, and affirm, that in all distempers whatever, profuse sweating too long continued, may have the same effect, and that it seldom or never can be useful, as all the purposes of it may be fully answered by a gentle mador on the  
skin,

hot burning fit, yet they must not be given during the sweating fit. The heat of new milk will be the most proper temperature. If nature be not interrupted, she usually discharges the morbid matter

skin, which may be much longer continued with less hurt to the strength of the patient."

Experimental Essays, p. 174, 175.

" And we see from the above experiment, that toward the end of a large and long continued sweat, a quick, weak, tremulous pulse comes on. Whenever we meet with one of this kind, we ought to consider it as a strong indication of the weakness of nature, and therefore, in my opinion, to be nearly as cautious of sweating, as of bleeding."

Ibid. p. 177.

" The following Corollaries, drawn from experiments and observation, may perhaps throw some light upon this subject.

" Coroll. 1. When the velocity of the blood is too great, and its momentum too little in proportion, sweating will generally increase the velocity, and diminish the momentum.

" Coroll. 2. When the velocity of the blood is too little, and its momentum too great in proportion, sweating will generally diminish the velocity, and increase the momentum.

" Coroll. 3. When the velocity and momentum of the blood are both too great, sweating will weaken both; but if it is continued long enough to exhaust the natural strength, it will then again increase the velocity, but not the momentum.

" From these corollaries we may form a sort of general plan, when sweating is useful, and when not. Laying it down therefore as a postulatam that the strength of nature depends more upon the momentum, than upon the velocity of the blood, whenever we find a sweat increasing the velocity, and diminishing its momentum, we are sure that it is weakening the patient, and therefore must endeavour to stop it. Again when we find a sweat increasing

the

ter of this paroxysm by sweat ; and this sweating, which commonly ends in a few hours, may in some measure be called critical. If it last longer, it weakens and relaxes the patient, quickens the pulse, diminishes the momentum of the blood, creates thirst and costiveness, lessens the milk and lochia, occasions their absorption, brings on, or increases putridity, and frequently introduces eruptions of the white or red kind, and not uncommonly of both.

If the patient be troubled with pains in her head, back, or loins, attended with a swelling, pain and tenderness in the lower part of the abdomen, a nausea, vomiting, diarrhea, tenesmus, frequent motions to make water, a quick pulse, thirst, and a white or brown tongue, or with any of these symptoms, it is necessary to give her a gentle emetic, consisting either of ipecacuanha\* in substance, or  
of

the momentum, and diminishing the velocity of the blood, we may be sure that it is then emptying the overloaded vessels, or opening some obstructions, and in one of these ways adding to the natural strength. Farther, when we find a sweat diminishing the velocity and momentum of the blood, when they are both too great, we have reason to believe it is then carrying off some morbid matter, which was the cause of this augmentation, and therefore may go on with the sweat almost as long as we find the momentum and velocity diminish in an equal proportion to each other ; for we may be assured, that while they do this, nature is never weak ; as very few, if any instances ever happen, where great weakness is not attended with a very quick pulse."

Alexander's Experimental Essays, p. 207, 8, 9.

\* "The method of cure, therefore, established at present in the Hotel Dieu, and which has never yet failed of success since it was applied, consists

of some antimonial preparation, emetic tartar for instance, essence of antimony, antimonial wine, or James's powder. The dose should be repeated once or twice a day, or as often as is found necessary to cleanse the stomach of phlegm, bile, gastric, or pancreatic juice, with all of which it is generally overloaded during the disorder. Whichsoever

“sifts in taking the advantage of the moment of attack, and giving, without losing an instant of time, fifteen grains of ipecacuanha in two doses, at the distance of an hour and a half from each other, and repeating them again the next day in the same manner, whether the violence of the symptoms be abated or not : And if the disease should continue much the same, they are repeated again the third, and even the fourth day, according as the case may require. In the intervals between the doses, the effect of the ipecacuanha is kept up by a potion, composed of two ounces of oil of sweet almonds, one ounce of syrup of marsh mallows, and two grains of Kerme's mineral. The common drink is linseed tea, or an infusion of scorzonera,\* edulcorated with syrup of althæa ; and towards the seventh or eighth day of the disease, the patient takes a milk purgative, which is repeated three or four times, according to the exigency of the case.

“It is evident, therefore, that the efficacy of this method of cure consists wholly in its early application, namely, in the very moment when the disease first commences : And though experience has since taught us that the loss of a few hours is not always irreparable, yet it seldom happens that ipecacuanha has the same complete success when the first moment of attack is lost.”

Vid. Whitehead's Transf. of Doulcet's Memoirs, p. 10.

The invention of the above method of curing this disorder, by giving vomits at the very first attack of it, and frequently repeating them, cannot be ascribed to Mr. Doulcet, since Dr. Denman, in his Essay on the puerperal fever, published in 1768, advised the use of them with this difference only, that he recommended tartar emetic, whereas Mr. Doulcet gives ipecacuanha

\* *Scorzonera latifolia*, Casp. Bauhin. Angl. Viper's Grass.



ever of these medicines is made use of, it should be given at first in a small quantity, and if no visible effect ensue, if it neither affect the patient by stool or vomit, the succeeding doses should be increased, till their quantities are such as will answer their intentions. Frequent vomits are very useful in all putrid fevers, for the saliva\* which is swallowed into the stomach, and the other juices that are found there, and in the duodenum, contain very little or no fixed air, and therefore of course absorb the putrid miasmata, which cannot too often be evacuated. But if the patient have very violent pains in the abdomen, purgatives are to be preferred to emetics, as the action of vomiting might increase those pains.

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cuanha the preference. But in this Treatise of mine, which was published in 1773, I recommended ipecacuanha in substance, and as it was translated into French, and published at Paris in 1774, it is most probable Mr. Doucet must have seen it, since he appears by his memoir, never to have used this mode of treatment till that time. We must however allow that Mr. Doucet has very properly laid particular stress upon the ipecacuanha being given at the very instant of the attack; and the public are much indebted to M. Vicq. D'Azyr, and the gentlemen of the Royal Medical Society of Paris, for the report which they published.

\* “The absorbent quality of the *saliva* moreover shews, how apt it must be to lay hold of infectious *miasmata* which oftentimes are in reality putrid vapours, or fixed air, detached from bodies during putrefaction; and confirms what hath been frequently recommended, namely, to shake off infection, and prevent the *miasmata* from getting into the mass of fluids by immediate vomiting; and we may likewise see, that the cautions given by authors concerning the swallowing of the *saliva* while in the places abounding with infectious vapours, are founded in reason.”

Macbride's Exper. Essays, p. 268.

By



If the patient be costive, or have a tenesmus, emollient clysters, which not only help to carry off the morbid matter, but are extremely useful as fomentations to the whole abdomen, should be frequently injected; but especial care should be taken that they are not administered too warm; and if these be not sufficient, gentle purgatives must be administered in small doses, and frequently repeated, as cream of tartar, Glauber's, Rochelle, or Epsom salts, rhubarb or castor oil; if these should fail, still stronger must be made use of.

So soon as the stomach and bowels have discharged their morbid contents, spiritus mindereri, or the salt of wormwood neutralized with the juice of lemons may be given in draughts. This last medicine should be taken during the act of effervescence; or it may be more agreeable to the patient if the salt of wormwood be administered in draughts of a scruple each, and each draught washed down with a spoonful of lemon juice; and probably the taking it in this manner may be fully as effectual, as they will effervesce in the stomach. These doses should be repeated every two hours

By the precautions taken by Dr. Lind, and by immediate vomitings, only five persons died from among more than an hundred, who were severally and some of them constantly employed, during eighteen months, in various offices about the sick in Haslar hospital, where there constantly was a great number of people ill of fevers that were highly infectious.

See his *Discourse on Fevers and Infection*, paper 2, p. 74.

hours or oftener ; they will correct and sweeten the acid putrid bile, and will allay the feverish symptoms. Doctor Lind, who has prescribed them frequently upon the accession of cold fits, tells us that they generally shorten the fits, and occasion profuse sweatings. It may be necessary perhaps to remind the reader, that though sweatings are in general very pernicious in this fever, yet they are indispensably necessary at the termination of a rigor, and may in some measure be said to be critical in respect to that paroxysm, though there be not a perfect crisis : that the best method of procuring these sweats is to moderate and shorten the burning fit, for Dr. Alexander has proved that a person may be too hot to sweat, and that there is a sweating point, in any degree of heat above or below which a person cannot sweat. Therefore if the patient be too hot to sweat, that heat must be lowered by cold air and cold water. By these means the burning fit will be moderated and shortened, and sweats will naturally succeed, and will only continue a proper time, if they be not encouraged by warm liquors, a warm room, and many clothes ; hence the velocity and momentum of the blood which before were too great, will now be lessened, whilst the morbid matter is carrying off, which was the cause of the augmentation.

Riverius\* gave salt of wormwood and juice of lemons in obstinate vomitings attendant upon putrid malignant fevers. Sydenham administered a scruple of salt of wormwood in a spoonful of lemon juice, during the illiac passion which succeeded the depuratory fever, and in an intermittent fever attended with almost continual vomitings, he gave the same quantity six or eight times in the space of two hours. I have prescribed this medicine in the act of effervescence for many years during every stage of the putrid malignant fever, both in pregnant and puerperal women with every apparent advantage. This practice has been recommended by Whytt, Barry, both the Linds, Pringle, and Macbride, who agree that the virtues of this medicine depend upon the emission of the fixed air, but they differ in regard to the mode of its action; some are of opinion that it is owing to its brisk and unusual *stimulus*† on the very sensible nerves of the stomach, others

\* “*Salis absinthii ℞j. cum succi limonum cochleari mixtus, remedium est præstantissimum, præsertim in vomitu, qui febribus malignis solet contingere.*”

Lib. 9. Cap. 7. de Nausea & Vomitu.

† “The draughts of salt of wormwood and juice of lemons are observed in a great measure to lose their power of stopping a vomiting when they are not swallowed in the act of effervescence: And, Is not their superior antiemetic power in this state owing to their making a much stronger impression upon the nerves of the stomach, while they continue to emit this fixed air, and when all their parts are in violent motion, than after saturation, when they can act only by their saline quality? For while the nerves of

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others to its antiseptic powers, by sweetening and destroying the putrefactive acrimony. But which ever of these is the case, it certainly moderates the cold, the hot, and the sweating fit ; it allays thirst, vomiting and the febrile heat ; it keeps the intestinal canal open, and it raises the spirits without heating the patient. I have never known the least bad consequence attend the taking of it, except that it has in some cases caused an uneasiness at the stomach, owing to its sudden distension, from the quantity of fixed air set at liberty. This effect may be moderated by suffering so much of the effervescence to subside before taking it, as may be judged necessary ; it is never more than a temporary inconvenience ; if the vapour be imbibed into the lungs it will sweeten the breath, which in its purest state and in health is septic, but in putrid fevers most remarkably so.

Notwithstanding the ingenious Dr. Macbride's experiment with the sparrow, and the general opinion that fixed air arising from the union of the mildest alkaline salts, and even the purest vegetable

“ the stomach are affected with this brisk and unusual *stimulus*, that disagreeable  
 “ sensation which produced the vomiting must be lessened or destroyed :  
 “ And, Is not the effect which those draughts sometimes have in preventing  
 “ the attack of intermittent fevers to be ascribed solely to their action on the  
 “ very sensible nerves of the stomach, and not to any sudden change which  
 “ they may be supposed to produce in the nature of the humours contained  
 “ in the *prime viæ* ?”

ble acids, such as salt of wormwood and juice of lemons, cannot without immediate danger of life be admitted into the lungs, I am convinced from a number of trials I have made upon living human subjects of all ages, that it may be admitted into the lungs with the greatest safety not only when they are in a sound but even in a diseased state. I have likewise used in the same manner chalk as well as the alkaline salts with the vitriolic acid, and never found any inconvenience, except the fixed air was thrown into the lungs in too large quantities, and then only a temporary giddiness; but for internal use, vegetable acids seem to claim the preference\*.

If, notwithstanding the use of these medicines, and the repetition of the emetics, the nausea and vomiting continue, so that there is reason still to suspect a redundancy of vitiated bile, a scruple or half a drachm of the powder of columbo root or its extract, or a few spoonfuls of the infusion of it, may be given three or four times a day. If the patient's looseness be too violent, this medicine will agree better than the neutral mixtures, which generally promote that discharge, but if the intestinal canal be not sufficiently open, either the neutral mixtures must be continued, or some neutral salts,

\* For a farther account of the medicinal application of fixable air I must refer my readers to some useful *Experiments and Observations on Mephitic Air*, published by my ingenious friend Dr. Percival.



falls, such as vitriolated tartar, to the quantity of half a drachm, be added to each dose of columbo. Small doses of rhubarb may be administered at proper intervals, and if there be great signs of irritation, provided there be no delirium, opiates, especially if a grain of ipecacuanha be added to each dose, may be given with safety and advantage. If a cough and difficulty of breathing come on, a few grains of ipecacuanha, or as much as will occasion a gentle puking, will sometimes relieve the patient. If pains of the side or any part of the thorax attack her, I have known the Senegal rattle-snake root, taken to the quantity of half a drachm three or four times a day, remove them.

If the diarrhea be immoderate and sink the patient, she must be properly supported: For this purpose, she should have saleg with a little wine, or brandy in it, common sago, or the jelly of the North American sago powder, an infusion of well toasted bread, strong coffee, boiled milk and flour, a strong decoction of horse beans, with a little spiritous cinnamon water; and if the fever be abated she may have cordial juleps consisting of columbo, confect. cardiac. confect. democrat. extract. lign. camp. gum. rubr. astring. draughts composed of the jelly of English starch made with simple cinnamon water, adding to each draught half an ounce

ounce of tinct. stypt. ; and starch clysters may be injected, to which may be added opiates if necessary. In this state of the disease I have experienced the good effects of small doses of ipecacuanha given as an alterative.

When this disorder is in its decline, the bark, and the acid elixir of vitriol with Pyrmont and Seltzer water, are proper to brace and strengthen the patient, and if there be any signs of the fever remaining, the Seltzer water, as it is less heating, is to be preferred to that of Pyrmont.

Whatever signs of inflammation may appear at the beginning of this disorder, it is agreed by all authors that they do not continue long. The disease generally soon puts on the form of putridity. Foul stagnated air\*, human effluvia, heat moisture, and animal food, the great promoters of putrefaction, should therefore studiously be avoided.

Free

\* “ Animals, even the most tenacious of life, and those whose existence is found to depend the least on air, sooner expire in air made foul than in vacuo.—Plants sooner suffer, and droop beneath the influence of noxious steams, than in a want of this all vivifying fluid.”

Lind on the Health of Seamen, p. 81.

“ More danger is, doubtless, to be apprehended to the sick, from breathing in air polluted with their own, and the effluvia of others, than from any degree of cold which can well be admitted by fresh air.”

Ibid. p. 86.

Free and even cold air†, an upright posture, cleanliness, fruit, fresh, or preserved, a vegetable diet, and the use of cold acidulated liquors, should be strictly enjoined, such as imperial, orange, or lemonade, &c. the vegetable acids\* are to be preferred

+ “ When the hospital fever in the late war, was brought from England into the hospital at Mahon, the house being found insufficient for the reception of so great a number of patients, tents were reared up in the fields for many of the men. These poor fellows were thought to be badly accommodated, but it was very observable, that most of those who lay in the cold tents recovered; when the mortality in the house was so great, that in some wards not one in three escaped.”

Ibid. p. 106.

\* “ From these experiments may be deduced the great utility of acids in all diseases which either proceed from, or are accompanied by, a redundancy and depravation of the bile. And this seems to be the case with most autumnal fevers, and in general with the epidemics of all hot countries, especially where heat and moisture are conjoined. For the former promotes the generation, and the latter the putrefaction of the bile.”

Percival's Experiments on Astringents, p. 155.

“ The difference between the action of mineral and vegetable acids on putrid gall, as evidenced in the preceding trials, is deserving of particular notice. From the ignorance of this distinction, or want of attention to it, I believe the elixir of vitriol is often exhibited, when vinegar, or the four juices of vegetables, would be much more serviceable. For though it is the common property of all acids to correct the putrid acrimony, yet the power of *sweetening* it seems to be peculiar to those of the vegetable class. And as they are mildly aperient, at the same time they will not only neutralise the septic *colluvies*, which in some diseases lodges in the stomach and flexure of the *duodenum*, but will also tend to evacuate it: An advantage not to be expected from the mineral acids.”

Ibid. p. 158.

“ Acids correct the bitterness and acrimony of the bile; and volatile alkalies and bitters correct the acidity and tenacity of the phlegm. If vinegar

red to the mineral, they not only correct, but sweeten, the putrid bile, and are mildly aperient, and above all, we must remember to keep the alvine tube open.

Every method recommended in the preceding chapter as preventive of this disorder, should now be enforced in a higher degree, in order to its cure; particularly the patient should have clean linen every day, and her hands, face, and teeth should be daily washed in cold water\*, except she be in a sweat; she should also sit up in bed as often as she can bear it, and be got out of bed every day.

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egar be mixed with strong decoctions in water, of wormwood, gentian root, camomile flowers, centaury tops, and buckbean, the mixtures will have neither bitterness nor acidity, if they be mixed in just proportions. Hence acids and bitters correct each other, when either happens to abound too much in the body. If bile abounds, as it commonly does in summer and hot countries, acids and cooling acidulated liquors will be proper to correct it; and if phlegm abounds, as it does in winter and cold countries, volatile alkalious spirits and warming fermented liquors will be proper correctors."

Robinson on the Virtues and Operations of Medicines, p. 168.

"Ex aceti partibus quatuor, & bilis recentis partibus quinque, mistura facta, neutrius saporem præbebat, sed medium quendam, manifeste dulcem."

Robertus Ramsay Dissert. Med. Inaug. de Bile, exper. xvii.

"Mistura aceti & bilis, ut in exp. xvii. facta, lacti recenti affusa, coagulum hujus non induxit, etsi eadem aceti copia, per se affusa plus quam sufficiens ad coagulum inducendum fuisset."

Ibid. exper. xix.

\* "Frigus, quatenus corporis calorem & cerebri vel nervorum energiam minuit, sedans est. Si calor nimius sit, frigus ad eundem compefcendum utile

If these directions be timely made use of, before any considerable absorption has taken place, or any matter deposited in the cavity of the abdomen, I have no doubt but they will generally prove successful. I have always found them so, except in cases wherein the womb has suffered damage at the time of parturition ; but I must inform the reader that I never attended a woman in a lying in hospital. A diaphoresis or gentle sweat, is recommended by many authors, who yet allow that a diarrhea is critical, that it is the way which nature takes to disburden herself of the morbid matter, and that it ought by no means to be checked. It is an axiom in physic, that the increase of one evacuation lessens all the rest ; † Why then should an evacuation be encouraged which relaxes and weakens the patient, increases the velocity, and decreases the momentum of the blood, creates thirst, lessens the milk and lochia, promotes putrefaction  
and

utile est. In plerisque morbis febrilibus, caloris stimulus morbum exacerbatur, adeoque frigus ad gratam sensationem fere semper necessarium est. Si nec inflammationis topicæ, nec diathesis phlogisticæ periculum sit, aer & potus frigidi, libere concessi, multum juvant. In ephemera puerperarum aquæ frigidæ haustum vel manus immersionem ut remedium eximium laudat Professor noster Young, et, sæpe omnibus aliis anteponendum, censet.”

Differt. Med. Inaug. T. Tucker, p. 45.

† For a more particular account of the great advantages, and even necessity, of cold air, in suppressing and extinguishing fevers, I must beg leave to refer the reader to two very sensible pamphlets published by Doctor Kirkland, the one entitled, *An Essay on the Cure of Diseases causing Fevers*, the other, *A Reply to Maxwell*.



and absorption, and checks that looseness which certainly should not be removed, except by taking away its cause ; I mean by the admission of free air instead of foul, by the prevention of heat and moisture, by abstaining from such foods as have a putrescent tendency, by frequently cleansing the stomach and bowels of the corrupted colluvies, by correcting and sweetening its putrescent acrimony, and by an upright position preventing a lodgement of any kind of offending matter, either in the uterus, vagina, intestines, or bladder ?

I do not deny that many persons have recovered who have been kept in gentle sweats ; but instances of the recovery of patients may be adduced, under almost every kind of erroneous practice. That many have recovered without sweating, or where the sweat has only come on at the termination of the paroxysm of a rigour, I myself can testify. Excepting at this period, I am equally confident that the patient's recovery, without sweating in the smallest degree, is not only *more expeditious*, but *attended with greater certainty*, and though we often see a gentle diaphoresis upon the skin when the fever goes off, yet we ought not to consider it as the cause, but the consequence of the amendment ; and I believe I may venture to say, that in those few cases where sweating has proved serviceable,  
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the sweats have come on spontaneously, and were not the effect of art.

Nitre\* is a very improper medicine in this fever, and in all diseases where putrid bile abounds.

In regard to phlebotomy, especially at the beginning of this disorder, authors are much divided; some of them obstinately insisting upon its efficacy, and others as warmly rejecting it.†

That some women may be subject to such inflammatory disorders during their lyings in as may require bleeding, cannot be denied; but cases of this kind are not very common in the present age, especially amongst those who inhabit large towns. In the puerperal fever, however, which generally, sooner or later, affords striking symptoms of putrescency, we should be extremely cautious how

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\* Sir John Pringle, in making some experiments upon gall to preserve it from putrefaction, says, "Only nitre failed, which though four times stronger than sea salt in preserving flesh, is inferior to it in preserving gall, and much weaker than *sal ammoniacus*; which, again, is somewhat less powerful than nitre in keeping flesh sweet. The nitre was soon opened by the gall, and emitted much air, which arose as from a fermenting liquor, and when this happened the gall began to putrefy. But the saline mixture generated no air, and opposed the putrefaction of the gall more than it did that of the flesh. Perhaps this may be the reason why, as far as I have observed, nitre disagrees with the stomach in putrid bilious cases."

Append. to Diseases of the Army, p. 27.

† Leveret says he had never seen one woman escape after bleeding. Aphorism 995.

we do any thing to debilitate the *vis vitæ*, to weaken the circulating powers by unnecessary evacuations, or waste the strength which may be wanted to support the patient under looseness and vomitings. It has been lately observed by Doctor Denman, "that those who have recovered have seemed generally to owe their safety to a happy strength of constitution, able to withstand the continuance of a long looseness, by which the disease appeared to be gradually wore off, or to a spontaneous vomiting."\*

Such is the rapid progress of this acute disorder, that if the patient have suffered any unnecessary evacuations in the first period of it, by bleeding or sweating, there is seldom sufficient time to recruit her strength, and a trifling error may be productive of the most fatal consequences.

Cases have certainly happened wherein women have been relieved from feverish indispositions by small, but repeated critical discharges of blood from the uterus ; but it does not from hence follow, that the loss of blood from other parts, and that too procured by art, will have the same effects.

It is allowed that these fevers sometimes arise even after large uterine effusions ; Ought we then to expect to cure a disorder by bleeding,  
which

\* Essay on the Puerperal Fever, p. 13.

which bleeding would not prevent? It is a maxim in physic, that whatever remedy will cure, will prevent a disorder. The return of the lochia is sometimes one of the first symptoms of the recovery, but this return must be understood rather as the effect than the cause. This matter has been set in a very clear light by Doctors Denman, Johnson, Millar, and Manning, and I shall only add, that I never found bleeding necessary, except when inflammations of the womb have been brought on by violence used in the extraction of the child or of the secundines. In cases of this kind it should be used very early, as soon as there is any sign of inflammation, and (as puerperal women are in a state much inclined to putrescence) should not be repeated without the greatest circumspection.—Fomentations, and common warm and vapour baths are very improper, as they heat, moisten, and relax, and are therefore great encouragers of putrefaction and absorption.

Blisters\* are generally disapproved by all writers upon this subject. The stimulus they occasion  
in

\* "Si qui puerperio morbi supervenerint, in his omnibus adhibita vesicatoria inter tres primos dies periculum semper, sæpe mortem afferunt."

Manningham Aph. Med. p. 153.

Baglivi relates the history of a puerperal fever unsuccessfully treated, where blisters were attended with a manifest disadvantage to the patient. "Mulier octo mensium gravida, juvenis, & gracilis, integro octiduo doloribus ventris molestata,

in the bladder and uterus, and the bad effect they sometimes have in putrid and bilious fevers, when applied too early, are sufficient reasons to condemn their application in the beginning of this fever, especially if soon after delivery.

### The

molestata, demum infantem peperit. Post partum adhuc continuabant dolores, cum insigni ventris tensione. Quoniam vero omne genus remediorum spreverat, vel potius neglexerat, demum a quodam medico quatuor vesicantia sibi apponi permisit. Lochia quæ primum fluebant exinde suppressa sunt. Paucis post diebus denuo apparentibus lochiis, abdomen graviter convelli cæpit cum insigni dolore, adeo ut ne digito quidem premi posset; exinde sudores frigidi, cum refrigeratione extremorum apparuerunt; pulsus & respiratio erant diminuta, & fere ad extremum vitæ redacta fuit patiens. Elapsis paucis diebus in melius aliquantulum procedebat; derepente tamen supervenientibus gravissima spirandi difficultate ex genere convulsivarum, & interdum in delirium se commutante, nec non alvi fluxu flavo, & fœtido, qui per octo dies continuavit, demum decima septima die morbi, obiit patiens," &c.

Baglivi oper. p. 590.

Etherington, speaking of the low, nervous, and hysteric fever, says, "For although blisters in general are very serviceable where this disorder happens, yet, to lying in women, they prove of the worst consequence, by inflaming the womb, and sometimes bringing on mortifications and death. For which reason we cannot too earnestly forbid the use of blisters in all disorders of puerperal women, in the early days of their lying in, while the vessels are so full, and the parts from whence the placenta was separated so very tender, and liable to be injured by the caustic salts of the cantharides. Many fatal instances attending the application of blisters at this time have been observed."

General Cautions in the Cure of Fevers, p. 41.

"I do not know any worse practice than blistering in the beginning of fevers, particularly the putrid and bilious; blisters increase the inflammation, and greatly exasperate the acrimony of the morbid matter: in the early part of the bilious constitution, they promote the propensity to symptomatic sweats, and hinder the excretion by the bowels."

Grant on Fevers, p. 344.

"Neither do blisters seem to be always of service in fevers; for some of the putrid kind dissolve the blood, and turn into a dark corrupted sanies."

Glass's Com. 275.



The whole class of stimulating medicines, called emmenagogues, which are said to promote a discharge of the lochia, are equally to be avoided. They irritate the womb, increase the fever, and do not answer the end for which they are administered.

In the last stage of this disorder, when the patient seems to sink under it, we must endeavour to support her by strong infusions and tinctures of the Peruvian bark, by wine and other cordials, and to stimulate and rouse her by volatile salts and blisters; and in this state of the disease they may even be applied to the abdomen.

I must not omit to mention, in this place, the good effects I have experienced from emollient or antiseptic injections into the uterus, by means of a large ivory syringe, or an elastic vegetable bottle. In those cases where the lochia have become acrid or putrid, and by being absorbed into the circulation, have served as a constant fomes to the disease, I have by this means known the fever much assuaged, and in many cases wholly extinguished; for though, as I have before observed, the quantity of the lochia is not to be much regarded, the quality of this discharge is a matter of infinite importance.



## C H A P. VIII.

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### OF THE CURE OF THE MILIARY FEVER.



N the sixth chapter I have laid down the prophylactic treatment of this disorder. If I can pronounce with certainty of any medical fact, it is, that the miliary fevers of puerperal women may be prevented ; and I am equally confident that they may, in their first stages, be totally extinguished, without any of those bad consequences which too frequently attend them when they are suffered to take their usual course.

As soon as any symptoms of the disorder appear, whether they come on with or without a rigour, a gentle emetic will be necessary. This remedy may be administered at any time, except during the paroxysm, If there be a cold shivering fit, succeeded by

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burning

burning and sweating, these symptoms are to be treated in the manner explained in the last chapter. A quarter or half a grain, or where the constitution is remarkably strong, a grain of emetic tartar may be given twice a day or oftener, in draughts ; but if it be intended to act as an emetic, neither cream of tartar nor any other acids should be given along with it\*. If these doses do not occasion gentle vomitings, as the stomach in this disorder is generally relaxed, and abounds with heavy phlegm and mucus, a few grains of ipecacuanha should be administered every, or every other day, and neutral draughts in the act of effervescence should be given every other hour.

If the patient be costive, emollient clysters should be every day injected. They allay the febrile heat and prevent looseness, which is often occasioned by the feces lodging and thereby growing putrid and acrimonious in the intestines. An upright posture, with cold liquors and free, pure, and even *cold air*, accompanied with the greatest cleanliness, are absolutely necessary. If these and the directions given in the preceding chapter be properly pursued, I have no doubt but they will prove effectual in totally extinguishing the fever. Bleeding

\* “ Cream of tartar and acids check the operation of vomits, but more especially of antimonial vomits.”

ing and other evacuations, except gentle emetics and emollient clysters, will be unnecessary. There can be indeed no objection made to a mild purgative at the beginning of the disorder, provided it be not given immediately after delivery. Great care and circumspection is required in conducting the patient through the second stage of this disorder, when there is a large crop of miliary pustules, especially if they be of the white kind, attended with a quick uneven pulse, a dry tongue, and a continual sweat.

Though it be in this case absolutely necessary that the patient's linen should be frequently changed, that the bed curtains should be undrawn, and the room ventilated, and though it may sometimes be expedient that a current of fresh air should pass over the patient, yet these things ought not to be done suddenly or rashly; cautiously, and by degrees they may be performed with safety. The degree of cold admitted should be such as will reduce the heat of the body as near as possible to the standard of health, such as will prevent the patient's burning or sweating. Intense cold is seldom necessary; but where it is, by proceeding with proper care, it may be admitted not only without hazard, but with the greatest benefit.

Evacuations are in general followed with the worst of consequences. A few loose stools (in some

cases spontaneous, in others produced by art) have sunk patients beyond recovery, and bleeding has been attended with as bad success.

I remember, not without great concern, that in the earlier part of my practice, when my ideas of phlebotomy in puerperal cases were very different from what they are at present, I was called to a puerperal woman in this stage of the miliary fever. She had a plentiful eruption of the white kind, was in a sweat, and her pulse was so quick, so full and strong, that I was prompted to believe this evacuation necessary. She did not seem to be in immediate danger, I took eight or ten ounces of blood from her arm, but was instantly convinced of my error. Before I stopped the blood she began to droop, and in less than half an hour expired.

The making a large quantity of pale thin urine, a common symptom in this disorder, always weakens the patient to a great degree. All diuretics must therefore be pernicious.

I have known the hot sweating mode of practice carried on to that extreme, that the feather bed has rotted beneath the patient; by this method she has been so much exhausted, that the highest cordials have been necessary to support her, nay I have been credibly informed that under these circumstances a patient has sometimes drank a *gallon of wine*, in



a single day, *exclusive of brandy, and of the cordials from the Apothecary's shop*, and all this too without intoxication. Many have fallen victims to this practice, and those who have recovered under it, have in general been so much enfeebled, and have had their constitutions so far broken, that during the remainder of their lives they have been liable to frequent returns of the disorder\*.

When the patient has been kept sweating in bed for many days in a supine posture, her suddenly  
getting

\* Etherington speaking of the miliary fever says, "The use of sudorifics has been found to be successful neither in the beginning, middle, nor end of this fever; although the softness of the pulse at the beginning might seem to demand the warmest cordials; or its weakness during the eruption to make stimulants necessary. Neither is promoting at last the natural sweat, which appears to be a crisis, beneficial.

"The forcing out and keeping up sweats, upon every suspicion of cold or eruption, I know is warranted by vulgar practice. But I am convinced from repeated examples, that sweating in all eruptive diseases is attended with bad consequences. Probably from carrying off the thinner fluids, which should support and keep up the eruption."

General Cautions in the Cure of Fevers, p. 52.

"I have more than once known patients sink under this fever, after having been kept in a sweating method for five or six weeks together, and after having gone through three or four successive crops of miliary eruptions, as they are called, they all the while melting away, and weltering in their own sweat, and the bed rotting under them."

Huxham on Fevers, p. 87.

"How exceedingly pernicious hot alexipharmic medicines are in the miliary fever, experience hath too frequently taught us; by which it appears that

getting out of it has sometimes been attended with disagreeable consequences. These have not been owing to the cold, but have arisen from her change of posture, and from the feebleness of the muscular fibres of the heart, which profuse sweats had greatly debilitated. I have known several persons who, under these circumstances, notwithstanding the greatest care to prevent the effects of cold, could not bear this sudden alteration of posture. All evacuations, and whatever tends to weaken the tone of the vessels, has the effect of sweating. Sir John Pringle has remarked, "That nothing can be lower than the sick are in the advanced state of the jail or hospital fever, and that therefore Hoffman rightly advises in all such cases that the patient may be kept constantly in bed, and not be permitted even to sit up in it. In the last stage of this disease, as well as in that of the sea scurvy, it should seem that the force of the heart is too small to convey the blood to the brain, except when the body is in an horizontal posture\*." But as an horizontal position is very bad in all fevers to which puerperal women are subject, I always

that by means of such medicines, and keeping the patient too warm, almost all died when the disease made its first appearance; whereas at present, numbers under a temperate regimen escape. In a neighbouring town this year, a great many in the petechial fever were treated with hot alexipharmics, and kept in a continual sweat, of which scarce a third part recovered."

Glas's Comment. on Fevers, Eng. edit. p. 235.

\* Diseases of the Army, p. 314. 4to. Edit,

ways advise the patient, if she cannot sit up in bed, to have several pillows, or bolsters so applied to her head and shoulders, as to raise them as high as she can bear without inconvenience.

Blistering is so far from doing good in the first or second stages of the miliary fever of childbed women, that it is often productive of much mischief. It increases both the fever and the number of the pustules, attenuates the blood, increases the urine, promotes putrefaction, causes thirst, dryness of the tongue, watchings, deliriums, tenesmus, subfultus tendinum, hiccoughs, and convulsions. Nitre, especially if given alone, though an antiseptic, hath no place in this disorder. In weak and delicate stomachs it causes too great a chillness, it augments the patient's anxiety, adds to the vast oppression of the præcordia, lowers the pulse, and is exceedingly diuretic.

Volatile alkaline salts, though likewise antiseptics to the dead fibre, increase the heat, liquify the blood, and promote putrefaction in living bodies.

Emmenagogues must be avoided. They heat and irritate the patient, and are never productive of good.

Camphor has been held in great estimation in inflammations of the uterus, in acute and malign

nant fevers attended with heat, thirst, watching, delirium, and phrenzy, in all putrid disorders, and even in the plague itself; but in some constitutions, when administered in large doses, it has been known to produce strangury, costiveness, heat, thirst, spasms, and even convulsions.\*

The ingenious Dr. Alexander, after making several experiments with this drug, some of which were near costing him his life, concludes with telling us that he does not know whether to rank it amongst heating or cooling medicines, and that no certain rule can be laid down to ascertain the exact quantity which may be administered with propriety.

M. Pouteau, in his *Melanges de Chirurgie*, speaks highly of it in the puerperal fever, but Doctor Denman† says he was informed by a physician who

\* De Haen (in *Hist. Morb. Vratisl.*) says, the Physicians of Breslaw found that camphor in the malignant fever did more harm than good.

Ratio Medendi. p. 150.

“Does experience sufficiently warrant that virtue sometimes ascribed to camphor of preventing a strangury; two scruples of it given to a woman in a clyster, proved so irritating as to bring on pains resembling those of labour. Another woman was seized with a strangury soon after she had taken a camphor bolus, which she herself imputed to the camphor, and no other probable cause of it could be assigned. Camphor in its nature is nearly allied to spirit of turpentine, one drachm of which taken internally brings on a strangury as certainly as cantharides.”

Med. Transf. vol. 1. p. 470. Art. 21. by Dr. Heberden,

† Essay on the Puerperal Fever, p. 2,

who conversed with him upon this subject, that he afterwards altered his opinion. Whenever it is thought necessary to give it, I would advise it to be administered in some acid vehicle, in lemon juice as directed by Hoffman, or in the julep. é camphor of the College, prepared with vinegar instead of water in the manner recommended by Huxham and Mead, or with a small quantity of nitre.\*

Opiates should not be given except in cases of great irritation : They tend to relax the patient, and whenever they are necessary they ought to be accompanied with small doses of ipecacuanha.

Broths, butter, cheese, eggs, and animal foods of all kinds should be avoided as the encouragers of putrefaction.

Acid, or acidulated liquors, such as whey made of verjuice, tamarinds, or butter milk, water where-  
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\* Dr. Lysons, in his Essay on the effects of Camphor and Calomel, extols the virtues of nitre and camphor when given together in epidemic fevers ; but many of the cases he has brought to confirm his opinion appear to be ephemeræ only, and might have gone off without that or any other medicine ; and what confirms me in this opinion is, that he was often disappointed in his expectations from it, when it was not given in the beginning of the fever. [Vid. p. 16.] But notwithstanding this, I am of opinion that these two medicines are better given combined than separate, as they correct each other ; and though I cannot say positively, that I have seen them of service in fevers, yet I am very certain, that I have prescribed them, in the manner directed by Mr. Rowley, with very good effect to persons afflicted with ulcers of the legs.



in current jelly has been dissolved, lemon and orangeade, imperial, or Clutton's febrifuge julep may be drank, provided they do not occasion gripings ; infusions of antiseptic herbs, such as camomile and buck bean, bohea and green tea (if it has not been found to disagree) thin panada, gruel, sweet milk, butter milk, and wort, are also proper. If the bowels be in too lax a state, rose leaves, balustines, or Pomegranate bark, may be added to the wort. Salep, barley water, or cold water without any thing added to it, should be often given to the patient.

Where the labours under great languors, wine either alone, mixed with water, or made into whey, provided they are perfectly cold, may be administered occasionally ; if the patient be troubled with the heartburn or acidities which render wine improper, brandy or rum may be substituted in its room.

Ipecacuanha given in small doses, so as only to occasion a gentle puking, is of great service. It not only cleanses the stomach of that glassy phlegm with which it so much abounds in this fever, but is preventive of diarrheas by discharging acrid bile, pancreatic juice or corrupted saliva taken into the stomach by deglutition, or any other putrid colluvies. If a diarrhæa come on and sink the patient, it must be suppressed or moderated by astringents, such

such as gum, rubr. astring. lign. campech. sang. dracon. terr. japon. jelly of English starch given in draughts and clysterwise, &c. but chalk, absorbent calcareous earths, and the testacea must generally be avoided as great promoters of putrefaction. However, when acidities abound in the *primæ viæ*, which may be known by four eructations, vomitings, or by green stools, the chalk julep with tincture of bark may be given with advantage, and the white decoction may be drank for common drink.

Neutral draughts may be continued through this stage of the disorder, giving along with them occasionally such cordials as the rad. serpent. contrayerv. and confect. cardiaca, or any of the compound waters, according to the strength of the patient. The pulv. contrayerv. compos. of the College is an improper medicine in this fever, as it contains so large a proportion of the testacea as will overbalance the antiseptic powers of the contrayerva root. Elix. vitriol. dulc. given in draughts, and most preparations of the bark, beginning with the slender ones, such as cold infusions of it, bark tea, and Huxham's tincture, are of great service in bracing and strengthening the fibres, preventing sweat, and resisting putrefaction. If the patient's stomach will not bear the bark, it may be administered in clysters.\*

The

\* Dr. Ferriell relates the case of a woman who had a fever in her lying in, when the bark was of great service given in clysters.

The apthæ attending this fever are generally relieved by the bark, by acids, and acidulated gargles, and by borax given in the form of a linctus.

The third or last stage of this disorder is very hazardous.

I have frequently known musk of great service in watchings, deliriums, the subsultus tendinum, hiccoughings, and convulsions ; but it is often given in too small doses ; and hiccoughings have often been relieved by a few drops of oil of cinnamon.

If the patient's pulse sink, and she become lethargic, blisters and sinapisms must be applied to stimulate and rouse her, and the highest cordials, particularly wine in considerable quantities, and even the sal c. c. are necessary for her support.

During the whole treatment of the miliary fever in puerperal cases, the greatest circumspection and delicacy are required. The patient can frequently neither bear to be raised nor depressed. She can endure but few evacuations. Bleeding, purging, and even blistering, except as a stimulus in the last stage of this disorder, are hurtful. Neither sudorifics nor diuretics should be administered. No animal food, nothing that is septic, nothing weakening, nothing heating, irritating or dissolving  
the

the blood, should be given, except in the last stage. She can at all times bear gentle vomits, and emollient clysters to clear the *primæ viæ*. Pure, free, and cold air is useful if it be let in by degrees and admitted cautiously. Cold liquors if given with prudence are beneficial, and too much stress cannot be laid upon acid and astringent antiseptics.

All irregular discharges must be restrained, and the patient properly supported. We must remember there is no *particular*, and indeed seldom *any* crisis in this disorder; wherever there is it is the act of nature, not of art; and I must add, that critical eruptions, or discharges are so far from being prevented by cold air or cold liquors, that they are promoted by them\*. The nearer the heat of the body is brought to the standard of health, the sooner and the easier will nature be enabled to throw off her burden.

## C A S E S.

\* “Several patients labouring under eruptive fevers, who have happened to keep out of bed a little time every day for several days together, have constantly found that the eruption was greater while they were up and cool, and that it began to fade as soon as they were hot in bed. Is it owing to experience or hypothesis that eruptions are believed to be thrown out more vigorously by warmth and lying in bed?”

Queries by Dr. Heberden, Med. Trans, vol. 1. p. 470.



## C A S E S.

## C A S E I.



ANUARY 14th, 1761. Betty Rigg, aged 21, died in the Manchester infirmary of a peripneumony after three or four days illness, being about six months gone with child, and I had an opportunity of inspecting the body. The thorax contained a good deal of water, and the right lobe of the lungs was mortified, the womb and the rest of the viscera appeared to be in a sound and natural state. The womb was contiguous to the peritoneum, the intestines chiefly occupying the epigastric region, being supported by the distended uterus. Upon opening the womb and discharging the waters, I had a full view of the situation of the fetus, which lay upon its right side, the head to the os uteri, the right ear to the os sacrum, the left to the os pubis, the breech and feet to the fundus uteri,



ri, the knees drawn up to the belly, and the chin down to the breast. The placenta adhered to the anterior part of the womb. The womb was not much altered in thickness from an unimpregnated state. Her friends coming prevented any further examination.

## R E M A R K.

Till within these few years it has generally been imagined that the fetus from the time of conception to the 8th or 9th month, or even till the labour began, was placed in a sitting posture in the womb, with the face to the mother's belly, and the head to the fundus uteri; that at the 8th month or later the head growing heavier than the rest of the body, and specifically heavier than the fluid in which it swam, turned itself down to the os uteri, with the face to the mother's back, and remained there till the labour came on, and was then forced forward in the same direction.

By the frequent dissections of pregnant women, children have been found in various positions, which has occasioned variety of opinions. But the greater number of cases, especially those that have been taken notice of within these few years, seem to favour the following opinion; that the child in all natural cases from the time of conception

tion to the time of labour lies with the head downwards, the breech and feet to the fundus uteri, one side to the mother's back, and the other to the mother's belly, and after labour is come on, the child moves downwards in the same direction, with one ear to the os sacrum, and the other to the os pubis, till the child is pretty far advanced, when its face turns into the hollow of the os sacrum, and the occiput comes from under the os pubis ; and I believe this is always the case, except when nature is by some accident or other put out of her natural course. The form of the pelvis, the touching frequently in the last months of pregnancy, and at different times of labour, all seem to confirm this.

Though this is now the general doctrine of the teachers of midwifery, yet as few real dissections to confirm it have been made public, I thought it might not be useless to add one to the number.

## C A S E II.

MRS. — was delivered upon the 21st of April, 1770, of her third child. Her habit of body was delicate. She was very subject to nervous disorders, had been accustomed to warmth, and had all her life been treated with the greatest tenderness. She had a good natural labour, and the  
placenta

placenta came away without difficulty. Several days elapsed before she made any complaints, but I observed when I visited her that she was always in a sweat. There was a large fire in the room which made it very hot, and there was a disagreeable smell in it. Her lochia were in proper quantity, but very offensive.

I repeatedly desired that she might be kept cool, that a little fresh air might be frequently admitted, and ordered her to be got up every day ; but none of these directions were complied with.

On the 5th day she had several loose stools with slight pains in the abdomen, her tongue was whitish, her pulse rather too quick, she was troubled with the heartburn and had four eructations, and continued sweating. As her complaints were trifling, I only prescribed four large spoonfuls of the chalk julep to be taken every four hours, and ordered her the white decoction for common drink. In the evening the diarrhea and pains in her belly increased, she seemed easier however after every stool, and was directed to take three spoonfuls of Fracastorius's decoction every three hours.

Day the 6th. Her looseness was abated and she seemed better.

On the 7th. Her sweats continued, the diarrhoea increased, and her pains returned. Her stools were so very frequent, that I thought it necessary to check them by a clyster of the chalk julep in which two grains of opium had been dissolved. In the evening her pains and looseness were much worse, and she complained of a cough. She was ordered an oily draught, with twenty drops of liquid laudanum, and a mixture made with the jelly of starch, of which she was directed to take three large spoonfuls after every loose stool.

On the 8th. Her pulse beat 120 times in a minute : her tongue had a white fur upon it, her milk decreased, her lochia stopped, and she had eighteen or twenty stools. Her sweat and stools were so extremely putrid as to be offensive not only to those in the room, but to the whole house. No arguments could prevail upon her attendants to admit fresh air. A clyster was administered composed of the jelly of starch, and half an ounce of diascordium. Draughts consisting of jelly of starch, a scruple of the cordial confection, and a drachm of the syrup of poppies were given her every four hours. In the evening she took a draught with ten grains of rhubarb in it.

On the 9th. Continued much the same. On the 10th her tongue had contracted a thick fur ; her pulse beat 120 times in a minute, her milk was  
much

much decreased, her sweats and looseness continued. My worthy and learned friend Dr. Brown was joined in consultation with me. We ordered her two grains of ipecacuanha in a little mint water, which procured her one gentle puke. Draughts containing ten grains of the compound powder of bole, a scruple of the cordial confection, and five grains of nitre, were given her every six hours. In the evening the pains in her abdomen were so great that she was obliged to take a grain of the Theban extract.

Day 11th. She remained much the same. The draughts were continued,

Day 12th. Very little alteration. The draughts continued.

On the 14th. The diarrhea, sweats, quick pulse and white tongue, as in the four preceding days. The pains in her belly as bad as ever. The nitre was omitted, and forty drops of the Paregoric elixir were added to each draught. There was little alteration either in her symptoms or her medicines till her 19th day, when she seemed to be worse than ever, and complained much of a weight and oppression about her breast and stomach.

Being both alarmed and surprised at the obstinacy of her case, we talked with her husband about



it. He informed us that her mother, and another lady, with the nurse and child, had constantly lain in the same room with her since her delivery, that our directions in regard to air and ventilation had never been complied with, and that if we had opened a door, it was shut immediately after our leaving the house. That a large fire had been kept in the room day and night, that the curtains had been always drawn close round her bed, and that she had not been permitted to breathe any air but what had been polluted by her sweat and excrements, and the effluvia arising from the breath of so many persons. That several of those who were most with her had got the same kind of putrid diarrhea, but that he had himself escaped it, most probably because he had avoided as much as possible going into the room, upon account of the excessive heat, and offensive smell which it afforded. He said he was now sensible both of the danger she was in, and of the absurdity of the practice of those about her, and that he was therefore determined to see our directions strictly complied with. The fire was taken out of the room, which was gradually cooled, and thoroughly ventilated by frequently opening the door and window. Eight grains of rhubarb were given her in a solution of spermaceti.

The next morning she was considerably better; her pulse, which for many days had never beat less than 120, beat now no more than 100 times  
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in a minute, and her urine deposited a sediment. The ipecacuanha was repeated.

On the 21st. The lochia returned, and her looseness was more moderate : she was directed to take two spoonfuls of Huxham's tincture of bark every eight hours. The room was sprinkled with vinegar, and the ipecacuanha repeated.

The 22d. The ipecacuanha having puked her gently, relieved her breast and stomach, and was therefore repeated. She was considerably better, was removed into another room, and our directions were punctually complied with.

The 23d. Her milk was entirely gone, her looseness very moderate, and the ipecacuanha was repeated.

The 24th and 25th. The ipecacuanha repeated.

The 26th. She was very cool.

On the 27th. She took a draught containing ten grains of the powder of rhubarb, and the same quantity of compound powder of bole; her pulse was reduced so as only to beat eighty times in a minute, and she had no complaint, but that of want of strength, for which she was ordered a decoction

of the bark with Huxham's tincture, and the compound powder of bole. In a little while she perfectly recovered her strength, and has had another child since. During her last lying in, she strictly observed the directions I gave, and had no fever, or other bad symptoms.

## C A S E III.

MRS. —, a strong, lusty, healthy woman, was delivered on the fourth of May, 1770, of a fine large child. She had a natural labour, and the secundines came away very easily. This was her fourth lying in,

Her room was close and small, a large fire, which had been kept in it constantly, rendered it very warm.—Every time I visited her I found her in sweats. I frequently desired that the room might be kept cooler and more air admitted into it, but this was not complied with.

The lochia were in proper quantity, but so offensive as to affect the whole room.

She made no particular complaints till the fifth day in the morning, reckoning from the day of her delivery, when she was seized with violent pains, attended with a soreness, swelling and tension of  
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the abdomen, accompanied with a tenesmus, the motions of which, though frequent and very painful, occasioned her to void very little, except mucus. Her pulse was quick, her tongue white, and burning heats now came on, succeeded by sweatings. She complained of pains in her head, back, and loins. I directed emollient clysters to be administered every half hour, which procured her ease and copious stools. She laboured likewise under nausea, retchings, and vomitings. The apothecary was directed to give her a vomit of a scruple of ipecacuanha in a draught, and to work it off with an infusion of camomile, and I desired her to sit up often in bed, and to get out of it once every day. On the sixth day she had several discharges by stool, and after every stool seemed something easier. In other respects she was no better. Her lochia stopped, and her milk abated in quantity. I ordered the fire to be taken out, the door to be thrown back, and a window in an adjoining room to be kept constantly open, and I visited her frequently, and saw that this was really done. She was taken out of bed whilst clean sheets were laid on, and five grains of the calx of antimony, and half a grain of emetic tartar were given her three times a day.

On the 7th day the window and door were continued open, and a free circulation of the air was brought on by opening the window of the room in which she lay. The calx of antimony and emetic

tartar were continued. She had plenty of stools, was much cooler, her sweatings were abated, and her pains something better. On the 8th day, all her complaints were gone; her milk and lochia returned, and she removed into another room.

## C A S E IV.

JANUARY 12th, 1771. At two o'clock in the morning, Mrs.—— was delivered of a fine child, without any assistance; the navel string was torn off close to the placenta, and did not bleed. I saw her about half an hour after the child was born, the placenta was expelled from the womb by her natural pains only, and I had nothing to do but take it from her. After the child had been born about an hour, I cut the navel string about four inches from the child's body, and it did not bleed. Her labour being much quicker this time than it had been of her former children, she was unprepared for it. The night was exceedingly cold, being a very severe frost; the fire was almost out; she was just got out of bed, with only half her clothes on, when the waters broke, and the child was born; the nurse did not get to her till some time after I was there, so that she sat about an hour in a very cold wet condition; add to this, that she had at that time a very bad cold upon her. After she was put to bed, she did



not get warm in several hours, though a large fire was made, great quantities of clothes were heaped upon her, warm liquors were given her to drink, and her feet were wrapped in warm flannel. I saw her in the evening following, and found her much too warm, sweating, with a quick pulse, and complaining of pains in her belly. I desired the fire might be lessened, and some of the clothes taken off, but it was not complied with. I saw her the next day, and repeated the same advice, but with no better effect. I saw her upon the third day when she was still too hot, and sweating, and her pulse too quick : she got up in the evening, and had a costive stool ; she had currants given in her gruel, and eat some stewed prunes. She now complained of cold chills running over her. Upon the fourth day, she complained of slight cold shiverings, succeeded by heats, and had a costive stool. On the fifth day, the cold shiverings were more severe ; she complained of a pain in her back, and had two loose stools, with griping pains in her bowels ; the stools were very hot and sharp. I ordered her half a grain of emetic tartar to be taken twice a day, which did not puke her. The looseness increased very much on the sixth day ; she had a stool every five minutes. I ordered her twenty five grains of ipecacuanha, which vomited her, and brought up a large quantity of phlegm and bile. My directions were now pretty strictly complied with, several clothes were taken off the bed, the fire was lessened, the

room was kept more cool, and the door often opened to renew the air, and she got out of bed every day. The lochia were very pale, and the milk did not flow into her breasts in proper quantities, though the child was laid to them often in the day. I ordered the decoct. alb. for common drink, and by her own desire she eat some boiled horse beans, which remedy had formerly been of service to her in a looseness; she also drank some of the water in which the beans had been boiled. She had a very good night, without any stool, but on the seventh in the morning, had a dozen stools; she was now perfectly cool, and the pulse quite calm. As she complained of being faint and weak, I ordered her the julep. é creta, with a drachm of confect. cardiac. to be taken as often as she found it necessary, and now and then a little brandy and water. On the eighth day she had two or three stools, but made no other complaint, except that of weakness; her milk began to be more plentiful, and she had a very good night. On the ninth day, about noon, I visited her, and found her perfectly well, having no stool either in the night, or that morning, and her milk now flowed in a proper quantity.

## C A S E V.

ELLEN RAVENSCROFT, a poor woman, twenty five years of age, near six months gone with child, was, upon Friday the 30th of August,

guft, 1771, feized with pains in her head and back attended with a rigour. She complained much of cold : white wine whey was given to bring on a sweating, which enfued profufely ; ſhe was kept in bed, and blifters were applied behind her ears.

Monday, Sept. 2d. She this day took two doſes, conſiſting each of half a grain of emetic tartar, and five grains of the calx of antimony.

Sept. 3d. The ſame doſe repeated : She likewiſe took two ounces of the camphor julep, with ten grains of nitre, and in leſs than half an hour after grew delirious.

Wednesday, Sep. 4th, the ſixth day of her fever. I ſaw her this day, for the firſt time ; ſhe was confined to her bed in a ſmall room which was very hot and cloſe, and ſmelt very diſagreeably. She complained of pains in her head, back, and ſide of her belly ; her tongue was brown and dry, her pulſe quick and ſmall, her urine flame coloured, and ſhe had a plentiful eruption of red miliary puſtules, particularly upon her breaſt, the infides of her arms, betwixt her fingers, and upon ſuch parts of her body as had ſweated the moſt plentifully. She was delirious, and had a ſubſultus tendinum. The antimonial powders had procured no conſiderable

erable effect. I gave her ten grains of ipecacuanha, which vomited her very well, and brought up a great deal of glassy phlegm. A blister was applied between her shoulders; she was ordered to drink milk and water, cold water, or buttermilk and water, plentifully; she sometimes took water gruel and barley water; a window was kept open during the day time, and a clyster was given her.

Friday the 8th of the fever. The blister was ordered to be taken off, and the part was washed with milk and water to prevent a strangury. She was delirious, the miliary eruption was dying away, and another vomit was given her. Upon this, and the succeeding days the window was opened, and the clyster was daily repeated.

Saturday the 9th. No alteration appeared.

Sunday the 10th day. She had frequent retchings to vomit, attended with slight labour pains, and took every three hours a scruple of salt of wormwood in half an ounce of lemon juice during the act of effervescence, which was mixed close under her mouth, that she might breathe the fixed air.

Monday, Sept. 9th, the eleventh of her illness. She this day miscarried in the beginning of the seventh month of her pregnancy.

Tuesday.

Tuesday. She still remained delirious, the subfultus tendinum continued, her tongue was covered with a brownish fur, her urine was flame coloured, her pulse was quick and small, her skin was dry and parched, and the discharge of the lochia was trifling. The window and door were now ordered to be kept open day and night. She was raised up in bed as often as she could be prevailed upon, drank nothing but what was cold, and took every three hours salt of wormwood and lemon juice during the act of effervescence. The vomit and clyster this day repeated.

Wednesday. The discharge of the lochia was very small, she had no appearance of milk, but seemed something better.

Thursday. Much better, very sensible, but deaf.

Friday, Sept. 13th. No material alteration.

Saturday. Her situation much like that of the two preceding days ; the clyster repeated, the lemon juice and salt of wormwood continued, and her drink buttermilk and water, &c. as before. The door and window still kept open.

Sunday, Sept. 15th. She remained in the same state till evening, when she began to be a little delirious.



lirious. The night was frosty, but the door and window were still kept open.

Monday, 16th, the 18th day of the fever, and the 8th from her delivery. I this morning found upon her a plentiful eruption, which was evidently not of the miliary kind. The pustules were as large as peas, perfectly distinct, but not pellucid, and most nearly resembled those eruptions which are commonly termed scorbutic. They were chiefly upon her legs and the outsides of her arms, though she lay constantly with her arms out of bed, and exposed them as much as possible to the cold air of the window, close to which the bed was placed; none of them appeared upon her body. This eruption was attended with a violent itching in the skin. Her tongue was moist, but had a whitish fur upon it: She took another vomit, and parted with a great quantity of glassy phlegm. The night was very rainy, and the window continued open.

Tuesday, 17th. The pustules were more numerous, and had run together. She was quite sensible, but deaf; her pulse regular, her tongue moist but white, her urine of a natural colour, with little or no sediment; she complained of a slight soreness in her breasts, but there was no milk in them.

Wednesday

Wednesday the 18th. This second eruption was dying away, her pulse was slow and regular, her tongue moist, the itching in her skin continued.

Thursday. She continued to recover.

Friday, September 20th, the 22d from the commencement of the fever, and the 12th from her miscarriage. She had no complaints, except those of weakness, and of an itching which the eruption had left behind it.

In this case it is worthy of observation that there were two eruptions, totally differing from each other ; the first what is generally called the red miliary, and by some a rash, evidently produced by profuse sweating, and in the greatest quantity upon those parts of the body which were kept the warmest ; the other of a much larger kind, attended with violent itchings, came out upon the coldest parts of her body, when she had been twelve entire days without sweating, after a frosty night, in which the window had been kept constantly open. This eruption, though it had all the appearance of being critical, for the fever seemed to have no other crisis, was not at all checked by the cold air, or wet night, which succeeded its appearance.

Upon

Upon the whole, I think this case helps to prove that eruptions of the miliary kind are promoted by sweating, that they are not critical, that cold air and cold water are assistant in suppressing them, and that cold air and cold water will not prevent eruptions of a more critical nature.

N. B. Upon inquiring of her, since she recovered, she informs me that she does not recollect the least circumstance about her miscarriage.

## C A S E VI.

THE subject of the following article is a lady of an extremely tender constitution. Her appetite is bad, she sleeps ill, and has during the greatest part of her life been subject to frequent returns of the bilious cholic, with fevers and diarrheas attended with an universal yellowness of the skin, and pains in her right side. These complaints have prevented her taking that exercise which was necessary, and for many years have rendered her incapable of riding on horseback. She was always so impatient of cold when in perfect health, as to require a fire during the heats of summer.

She had borne seven children ; five of her labours were natural, and two of them preternatural. To

six of her children she had been herself a nurse. During these lyings in she never was once in a sweat, nor was she troubled with the slightest feverish symptom. In the first week she seldom got much sleep. This, together with a poor appetite, prevented her gaining strength so fast as many others do, but she was generally down stairs at the termination of the month.

She was continually hot and feverish for several weeks at the latter end of pregnancy of her eighth child, and during that time was frequently troubled with false pains.

On the 23d of August, 1771, she received a fright as she was riding in her chariot, and on Sunday the 25th was seized with a shivering fit, and was so extremely cold that she was obliged to order a large fire to be made in her chamber. In this state she continued the greater part of the day. About five o'clock in the afternoon she began to flood, her false pains continued, she was much alarmed, and as yet there seemed to be no preparation for labour, she now took twenty drops of the Theban tincture, with as many of the acid elixir of vitriol. In a little while the mouth of the womb began to dilate, and the child might be perceived to be in a natural position. Her legs and

feet still continued cold, but as her labour advanced her flooding abated, and she grew gradually warmer. After the cold fit came on she never perceived the child to move, though before that time it had been remarkably active.

About ten o'clock the same evening she was delivered of a small boy. In less than a minute after the head was expelled, another pain came on, and the whole child was produced in the manner I have before described, one shoulder coming from under the pubis, and the other passing along the sacrum.

The infant did not cry, it scarcely stirred, but the pulsation in the navel string was very strong. Before I cut it I waited to give the child time to recover. In about five or six minutes the pulsation stopped. I divided the umbilical chord with a pair of scissars, and the child gradually recovered. No effusion of blood followed the division, though I did not make a ligature till some time after the child was separated from its mother. I thought it however prudent to make one before the child was dressed, lest the warmth of the clothes might occasion it to bleed.

As soon as the child was removed the secundines came away without any assistance.

The



The first night my patient got no sleep. Though there was no fire in the room, she was too hot the morning following. She complained of pains in her head, betwixt her shoulders, and of a general lassitude, but had no afterpains.

The child was laid to her breasts early the next morning. She sat up several times in bed. In the evening she was removed to her chair, whilst her bed was made, and clean linen laid upon it. Her own linen too was changed. The chimney was never stopped, and the door was opened to let more air into the room. She drank barley water, eat toast and butter, and a few plumbs and apricots. The second night she had very little sleep. On the third day, Tuesday, she continued hot and thirsty. Her pulse was too quick. The noise of company in the house, and of carriages in the street, disturbed her. She frequently fell into profuse sweats. Her spirits were low, and she was much troubled with startings and twitchings all over her body. She ate a little chicken and French beans at dinner. Her drink was imperial, aired with a piece of toasted bread; and a window and a door were opened in an adjoining closet.

The third night she was almost sleepless; and on the fourth day, Wednesday, she remained hot

with pains in the head, back, loins, stomach, in the right side, and in the left shoulder. She had frequent startings, and broke out into sweats, and her urine was turbid and high coloured. From these symptoms I was apprehensive of the bilious colic, but was unwilling to disturb the acrid putrid bile by either vomits or purges, choosing rather if possible to correct it by fruit and acids, and to extinguish the fever by cold air and cold liquors. A clyster was however given her, which procured a stool. The door into a gallery was opened, and another window there was thrown open. A stuff quilt which lay upon the bed was exchanged for a slight washing one. She was taken out of bed and staid up an hour. Her usual liquor was cold imperial, she eat dry bread, with plumbs, pears, and grapes, and drank two cups of coffee and one of tea morning and evening.

On the fourth night she slept ill.

On Tuesday the fifth day she had flushings in her face, and her other symptoms remained much the same as in the preceding days. The doors and windows were kept open. Another clyster was given with success. Her diet was the same as the day before, with the addition of about half a pound of melon.

About

About midnight, being very hot and restless, she ordered the servant to open a window of the room in which she lay. The remaining part of the night and all the next day, this window, together with those in the closet and gallery, and the doors which communicated with those apartments, remained open. The curtains of the bed and windows were undrawn. There was a current of air through the room, and only a slight quilt with one blanket remained upon the bed.

My patient's dress was a half shirt and a thin linen skirt. She had no bedgown or waistcoat on, except when she sat up.

On Friday the sixth day she had a stool naturally, and she seemed cooler and better. Her diet had not been much varied for several days. She had coffee twice a day with toast and butter, puddings and fruit dumplings to dinner, and bread dipped in imperial for supper. She was usually three hours out of bed, often sat up in bed, and drank cold imperial, and eat fruit plentifully whenever it was agreeable to her.

On the seventh day, Saturday, she continued better. She had a stool procured by clyster. She sat up four hours, had free air and the usual diet, and this night her sleep was a little more friendly.

On Sunday the eighth day she was much cooler, and in all respects better. She had a stool by the assistance of a clyster. She sat up five hours, and no alteration was made in her diet. This evening all the windows and doors were shut for the first time. She had a good night, and on Monday the ninth day all her complaints were vanished. She got up before dinner and ate a whole partridge, a very unusual quantity for her when even in the best state of health.

During this whole time her lochia were in proper quantities. Her milk though not so much as upon former occasions, was more than sufficient for the child; on the fourth and fifth days her breasts were hard and knotty, but she was relieved by having them well rubbed with a soft hand, upon which a little oil had been poured to prevent their chafing.

Excepting a little cold water or rue tea the child tasted nothing besides its mother's milk. It slept eight, nine, or ten hours every night in a crib bed in another apartment, without any kind of food whatever, had the breast only four times a day, and never seemed griped or uneasy except upon the second day and night whilst the first milk was purging off the meconium. It was in every respect as well as an infant could be, neither fretful

nor uneasy as those children are apt to be whose stomachs are overloaded by large quantities of improper diet.

In the course of the first week my patient eat eighteen Orleans plumbs, fifteen green gages, ten apricots, four pears, one apple, four large bunches of grapes, and the greatest part of a large melon. Except the first day she drank every day two pints of imperial, but never tasted cordials, wine, ale, or any kind of spiritous liquors. Broths were never given to her, nor did she, the third day only excepted, taste any animal food. I knew her constitution well, and was certain that fruit and acids would agree with it; I was therefore so far from refusing her the free use of them, that I encouraged her in it. Inclination prompted her to this kind of diet, and experience had convinced her of its utility; but I must own I was greatly surpris'd that she could bear so much cold air, a thing so very unusual to her, and that too without taking cold. This circumstance I scarcely could have credited had I not been an eye witness to it. The cool air was let in cautiously, by degrees as she was found to want and as she perceived herself capable of bearing it; but she was so sensible of the relief it afforded, that she frequently called out for it herself. It is very evident that had not this method been pursued, a bad fever, the symptoms of



which appeared before her delivery, would have been the consequence ; and I have no doubt but that the fruit and the imperial corrected the bile and prevented a looseness.

The room she lay in was upon the first chamber floor. It was eighteen feet square, and twelve feet high, and had three doors and three windows into it. One of the windows faced the north, the other two the east, but these last were so far shaded by another part of the house, that the sun did not shine upon them after nine o'clock in the morning, and indeed there was so little sun during the mornings of this week that I could not discover the room to be at any time affected with it. For the season of the year, the heat of the air was very moderate. The quicksilver in Farenheit's thermometer generally stood at about sixty degrees, and never rose higher than sixty six.

During the second week she continued to recover, and by degrees returned to her usual way of living, eating animal food once every day and continuing her fruit and vegetable diet. The third week she sat in her dressing room every day, and her heats had so entirely left her, that a fire was very acceptable to her.

As this case, in which the method of treatment I would recommend was followed to its utmost extremity,

tremity, may appear so very extraordinary to some persons that they may imagine I have been imposed upon in several particulars, I think it proper to obviate any such objection, by declaring, that by constantly residing in the same house during the whole time, I was an eye witness of every circumstance I have here related.

## C A S E VII.

MARY LORD of Manchester, a poor woman, aged 31, was delivered on the 25th of May, 1772, in the morning, by a midwife in the neighbourhood. She had an easy labour, and the secundines came away without difficulty ; this was her third lying in. She had a shivering fit that evening, and another the next day, and on the third day she was seized with a severe vomiting and looseness, together with pains in her head, loins, hips, and lower part of her belly, which was a little swelled, and so exceedingly tender that she could not bear it to be touched. These symptoms continued, and she gradually grew worse till I first saw her, which was on the fourth day in the evening. I found her hot and thirsty, with a white tongue and a quick pulse ; her milk was much diminished, and the lochia stopped. The whole family lived in the same room in which she lay, being the only one they had ; it was very warm  
having

having a large fire in it, and smelt very disagreeably. I desired the fire might be lessened, and more air let into the room, accordingly the window was set open and remained open all night. She had scarcely sitten up in bed since her delivery, but had lain in an horizontal position all the time. I advised her to sit up frequently in bed, and to get out of it once every day, to put on clean linen, and never to suckle her child or take any food in an horizontal posture; to abstain from strong liquors, broths, and all kinds of animal food, and to drink buttermilk or buttermilk whey; and I directed her to take half a grain of emetic tartar with five grains of calx of antimony every four hours. On the fifth day the room was much cooler, and did not smell so disagreeably. She had complied strictly with my directions, and was much better in every respect. On the sixth day all her complaints were vanished.

## C A S E VIII.

ON the 3d of April, 1772, I was sent for to Mrs. — of W—H—, a few miles from hence. She had been delivered of a fine child, *as she sat upon the knee of an assistant*, by a young Surgeon about five hours before I saw her, and this was her second lying in.

The

The placenta still remained behind. She flooded much, and had several fainting fits, which came on in ~~such~~ very quick succession as to threaten immediate danger. I was desirous of getting the placenta away, as the most effectual method of putting a stop to the flooding. To effect this I pulled gently at the navel string, desiring the other gentleman to make at the same time a compression upon her belly, and directing her to assist herself by forcing and encouraging what little pains she had. These means were ineffectual, as she had lost much blood. As she still continued bleeding, and was reduced very low, I did not think it prudent to wait any longer; I therefore introduced my hand into the uterus, and easily brought away the secundines. The flooding immediately ceased, and I left her to the care of the gentleman who had delivered her, but who likewise lived at some distance.

I heard no more of her till the afternoon of the ninth day, when her friends sent for me to come over with all expedition, as they then thought she was dying. They informed me that upon the third day after her delivery she had had a cold shivering fit, followed by a hot one terminating in a sweat, that she had likewise a second upon the sixth day, and that she laboured under a nausea, attended with vomiting, thirst, and total loss of appetite.

appetite. Her pulse was quick and small, her tongue was very white upon its sides, and had a brown dry streak of about the breadth of half an inch down its middle. She gave suck to her child, had very little milk, and complained of great pain in her belly, which was so extremely tender that she could not bear me to touch it. Her lochia were sufficient in quantity, but very putrid. She had not had a stool since her delivery, though a clyster had been given her upon the fifth day; nor had she ever got out of bed during the first week. To these circumstances I must add, that since that time she had drank no less than seven bottles of made wine, each bottle containing about a quart, in gruel, whey, &c. The house she was in was an old country hall, was situated in a low marshy ground, and was moated about with a large piece of water.

I directed emollient clysters to be injected every half hour, half an ounce of Glauber's salts to be taken immediately, and the dose to be repeated a few hours after, salt of wormwood and juice of lemons to be taken in the act of effervescence every two hours; and as I apprehended I had very little time to lose, I ordered her a pill containing three grains of calomel to be taken early in the morning, if she had not a plentiful evacuation by stool before that time. In the night she had several stools, and as I found her much better in the morning, the  
calomel



calomel was omitted. I now directed her to take half a grain of emetic tartar twice a day, to continue the salt of wormwood and juice of lemons as before, to repeat the Glauber's salts occasionally, to sit up often in bed, and once a day to get out of it.

By these means the intestinal canal was kept sufficiently open, her fever disappeared, and the pains in her belly soon left her. She however continued very weak, and her legs and thighs swelled much, owing, no doubt, to the great loss of blood sustained before the placenta could be got away ; to remedy which I prescribed the bark and rhubarb, with eight or ten drops of the elixir of vitriol to be taken twice a day ; but her stomach could not bear that, or scarce any other medicine except the tincture of columbo, which agreed with her perfectly well : by this medicine, together with a solid diet, and gentle exercise, she gradual recovered strength.

## C A S E IX.

MARY WRIGLEY of Collyhurst, near Manchester, aged 28, was delivered by a country midwife, upon the 20th of May, 1772, *as she sat upon the knee of an assistant.* This was the fourth lying in. Her delivery was natural, and the placenta

centa came away without difficulty. On the third day she was seized with a rigour, grew afterwards hot, and then fell into a cold clammy sweat, which was of a long duration ; she had violent pains in her head, back, loins, hips, and the lower part of the abdomen, which was so exceedingly tender that she could not bear to have it touched. She had frequent vomitings, the pain and foreness in her belly made her breathing quick and short, and she had a cough which added to the pain and foreness. In her stools she had been tolerably regular. She had been three or four times taken up whilst her bed was made, but could not bear to continue out of it. This was the account her friends gave me when I was first called in, which was upon the ninth day, early in the morning. I found her in a copious sweat, which had continued a day or two, but all her symptoms were evidently growing worse. Her face was flushed, her pulse was quick, her tongue had a white dry fur upon it, and the middle of it was red and dry. She was much troubled with thirst. Her urine was high coloured. Her lochia, which for some time were few and very offensive, had entirely ceased. She gave suck to her child, but her milk was almost gone. She lay with her head and shoulders lower than the rest of her body, and she informed me that she had never sat up in bed since her delivery, but had taken all her food in that disagreeable posture.

This

This I apprehended to be one cause of her disorder. She had constant fire in the room, and the door had never been set open to give fresh air admittance. I opened the door, advised her to cool herself gradually, to let the sweat abate by degrees, and as soon as it was abated, to sit up in bed. I also directed her to sit up whenever she either took nourishment or suckled her child, and when she lay down ordered her head and shoulders to be raised by bolsters.

I prescribed for her a scruple of the calx of antimony, and two grains of emetic tartar, to be divided into four papers, one of which I directed to be taken every three hours. She was ordered to use water posset, by some nurses called two milk whey, for her constant drink, to abstain from strong liquor, broths, and animal food, and I directed an emollient clyster to be injected. I saw her again in the evening. I found her much cooler, but she still complained of pain and soreness in the lower part of the belly : Her complaints in general continued, but upon the whole she thought herself something better. She had taken the four doses of antimonial powder, and they had brought up a great deal of bile ; the clyster too had been given her, but as it had not procured a stool, I ordered a second to be administered. I now prescribed a scruple of salt of wormwood to be taken  
in

in a large spoonful of lemon juice during the act of effervescence. This I ordered to be mixed under her mouth, that she might breathe the fixed air arising from it, and this mixture I directed to be repeated every three hours. In an adjoining room I set a window open. When I visited her next morning I found her much better. In the night she had two large stools, exclusive of what had come away with the clyster. The pain, swelling, and soreness of her belly were almost gone, and she said she was in a manner well. *The door of her bed chamber, and the window of an adjoining room had been kept open all night, and there had been no fire in the chamber.* She sat up frequently in bed, and in the evening got out of it, and was able to walk with a little assistance.

On the 11th day she was considerably better; the lochia returned without any offensive smell; the milk increased in quantity, and her urine was of a more natural colour. The door of her chamber and the window in the next room were kept open night and day, and the same medicines and regimen were continued. Her fever and the pains in her belly, &c. had left her, and she seemed quite well, except that her tongue remained white and furred, but she was not the least thirsty. She continued to recover, and when I saw her upon the  
fifteenth

fifteenth day her tongue was of a natural colour, and she had no complaints except a little pain and weakness in her groins when she walked, which she was not able to do without assistance.

Upon the 18th day she had a return of her complaints, which gradually grew worse, but her friends did not send to acquaint me immediately, and when they did I was abroad, therefore did not see her again till the morning of the twenty second. She had lain in bed for the greatest part of several days, and was very costive. She complained of great pain in her loins, hips, and lower part of her belly, particularly about the *symphysis* of the *os pubis*, which was so extremely tender that she could not bear to have it touched. She had frequent motions to make water, attended with considerable pain, and could not make a spoonful at a time, which was very high coloured : her pulse beat 120 strokes in a minute. Tongue dry and parched ; breathing quick, short, and difficult, which she said was occasioned by the pain in her belly. Her lochia stopped ; her milk diminished. She sweated profusely, and her face was flushed. I ordered the antimonial powders to be repeated every four hours, an emollient clyster to be injected, and directed the nurse to raise her up frequently in bed, and to keep open the doors and windows. The powders puked her a little, but she had no stool. In the evening



I ordered her another clyster, and the salt of wormwood and juice of lemons to be taken every three hours during the act of effervescence, and she returned to the same kind of diet and regimen which had been at first prescribed.

She had a loose black fetid stool in the night; and on the 23d day in the morning, she made water rather more easily, and there was a small appearance of the lochia, but in other respects she was much the same. In the afternoon she was very hot, and so delirious that they could scarcely hold her in bed. This I must observe was a very hot day, and the room she lay in faced the south, which certainly contributed to increase her complaints. In the evening she grew cooler and more calm, and in the night made with ease a tolerable quantity of clay coloured urine, which deposited a copious sediment. Windows and doors kept open.

24th. In the morning she had a small quick pulse, which beat 116 strokes in a minute, but intermitted after every 5th or 6th stroke, her pains were something easier. This was likewise a very hot day, I therefore advised her friends to move her into another room, but she was so ill they thought she could not bear it, and it was omitted. In the afternoon her delirium returned, but not with so much violence. The effervescent mixture

was given every two hours. In the evening she had a large black fetid stool.

25th. In the morning her pulse was slower and stronger, and more regular, beating 96 strokes in a minute, but she complained of very great pain in the hypogastric region. I directed her to take half an ounce of Glauber's salt immediately, and the same quantity in an hour or too after, and to have the clyster repeated, but they did not procure a stool. Early in the afternoon, when the room was the hottest, her delirium returned, but went off again as the heat of the day abated, but her pain continued with such violence as to make her quite impatient. I ordered another clyster to be injected, and a pill to be given immediately, containing three grains of calomel and half a grain of emetic tartar. These procured her several very loose offensive stools in the night, and with them, great ease.

26th. I found her much better, the pain, soreness, and fever, having almost left her ; pulse calm and regular, beating only 88 strokes in a minute. Effervescent mixture continued. This day was rather cooler than the three preceding ones ; she had no delirium ; but her pulse was quicker in the afternoon ; beating 100 in a minute.

27th. Had not slept much in the night, but was cool in the morning ; pulse 88, did not com-

plain of pain except when she moved, but the soreness at the lower part of the belly still continued. I prescribed her the bark with a little rhubarb to keep her gently open. She was removed into another room which faced the north, and in the afternoon her pulse was reduced to 82 strokes in a minute.

The bark and rhubarb procured her several stools in the evening, which were of a more natural colour, and not so offensive. She had a good night.

28th. In the afternoon her heats returned a little, and her chief complaint was pain in making water. Bark and rhubarb, and the effervescent mixture were still continued, and I desired her to take a teaspoonful of the sweet spirit of nitre, and to drink plentifully of milk and small liquors.

26th. After a very good night, had no complaints remaining.

## C A S E X.

MARY BURGESS of Carrington in Cheshire, aged 38, was delivered September 20th, 1770, of her first child, by the assistance of the crotchets,

crotchet, having a very laborious birth. No attempts were made to extract the secundines that night. The next day the gentleman who delivered her desired I would visit her along with him. I found her very hot, and her pulse quick and strong; she had frequent returns of pains, which seemed to be efforts to expel the secundines, and during every pain a discharge of blood. I took hold of the navel string, pulled gently at it, desiring her at the same time to encourage her pains, and in about a quarter of an hour the secundines came away. Though only about twenty three hours had elapsed betwixt the delivery of the child and the secundines, yet they were in a very putrid state, as was evident both by the smell and their being remarkably discoloured. I took my leave of her, desiring her to keep cool; have fresh air frequently admitted into the room, and to sit up often in bed; and I had the satisfaction afterwards to hear that she recovered without any farther disagreeable symptoms.

## C A S E XI.

*Extract of a Letter from Mr. — to Mr. White.*

S I R,

MARY DAVENPORT of Barlow Moor, in the County of Lancaster, a strong health-

ful country woman, about 36 years of age, was delivered January 27, 1771, of her sixth child, *as she sat upon a woman's knee*, and had an easy natural labour. I used all the gentle methods I was acquainted with to bring the placenta away, but in vain. After waiting some time without effect, her friends growing uneasy, I desired you might be sent for, which was done, but you was otherwise engaged, and could not attend. The next day I made some further attempts to extract the placenta by gently pulling at the funis, but with no better success.

On the third day I laid hold of the navel string, with an intention of making another attempt to bring away the secundines, when the navel string separated from the placenta without any force being used, and was in a very putrid state. This day her milk began to come, but disappeared again in the evening. The discharge of the lochia was in proper quantities, but exceedingly offensive.

I do not recollect that she had any cold fit, but she had frequent hot burning fits succeeded by sweats.

On the fifth day she had a clyster given her, which procured a stool, and soon after the secundines came away in a very putrid state.

On



On the 6th day she complained of great oppression about the precordia, had a quick pulse, a white dry tongue, and her breath was the most remarkably offensive I ever observed. I asked her friends whether it had been usually so, but they assured me, that before her delivery, she had as sweet a breath as any woman in England. On the 12th a large quantity of white miliary pustules appeared, particularly about the breast.

On the 14th a hiccoughing came on; the miliary eruption continued out till the day of her death, which happened on the 22d from her delivery.

## C A S E XII.

MR. ———, a gentleman of abilities in his profession, has informed me, that in the month of March, 1772, he delivered Mrs. ———, *as she sat upon the knee of an assistant.* The position of the infant was natural, the placenta remained behind, and the mouth of the womb contracting itself, rendered it unsafe, at least at that time, to extract it. Another very able accoucheur was consulted, and they both agreeing that it was prudent to leave nature to herself, no attempts were made.

On the fourth day the secundines were excluded without assistance, and soon after she began to flood

excessively. The flooding could not be suppressed, and she died the same day.

## C A S E XIII.

MR. ———, an ingenious surgeon, told me he delivered a strong, healthy, country woman, of a fine child, *as she sat upon the knee of an assistant*: He made no attempt to bring away the placenta, having been instructed by a teacher of midwifery, whose lectures he had attended, that leaving it behind was never productive of disagreeable consequences. After waiting a considerable time in vain for its exclusion, no bad symptoms appearing, he left her as he thought, in perfect safety; but in the middle of the night she began to flood extremely, and he was again sent for. He made what haste he could, but living several miles from his patient, he came too late. She was dead, and the placenta unexcluded.

## C A S E XIV.

THE same gentleman has also informed me, that in the beginning of March, 1772, he was sent for to a woman who had five days before been delivered of a child by a country midwife,

wife, *as she sat upon the knee of an assistant* : she had flooded extremely, he found her dying, and the secundines unexcluded.

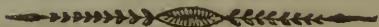
## C A S E XV.

I HAVE been told by a Surgeon in Cheshire, that having delivered a healthful woman, who had a very easy labour, he made no attempts to bring away the placenta, but left her, in full expectation of its being expelled without danger. On the third day he was again sent for upon account of a violent flooding. He lived only three or four miles from the patient, went as soon as possible, but found her dead without the exclusion of the placenta.

CONCLUSION.



## C O N C L U S I O N .



BEFORE I draw any inferences from the cases I have related concerning the management of the placenta, in order to state the matter fairly, it will be necessary to inform my readers that I have likewise known many misfortunes arise from the manual extraction, when it has been improperly or untimely performed ; such as inversions of the uterus, and death in consequence of it, lacerations of the neck of the womb, and inflammations of that organ, which have frequently ended in sterility or death. The advocates for leaving the placenta entirely to nature, certainly act upon the most laudable plan, and no person has a higher opinion of the powers of nature than myself ; but they have ended where they should have begun. They set out with art, and end with nature. It would have been better if they had reversed their practice.

We

We do nature great injustice, if by taking the reins into our own hands, we first interrupt her; put her out of her course, and then leave her to herself.

Woman in a state of nature was never delivered in a hot room, nor with many clothes upon her : By heat, and a multitude of clothes, the muscles lose their contractile power.

Woman in a state of nature would not think of being delivered in an upright posture, or upon the knee of an assistant.

Woman in a state of nature would not have the child dragged from her ; it would be gradually expelled by the contractile power of the uterus ; the same progressive contractive power would expel the secundines ; and,

Woman in a state of nature would not after delivery lie in an horizontal posture, in a warm bed, drinking warm liquids for a week, or even a day.

We should be consistent in our practice ; we should imitate nature through her whole progress, and not in the latter part only ; but we must also make proper allowances for these times and this country,



country, where women are so far removed from a state of nature.

We may however, in my opinion, draw the following conclusions :

1st. Putrid fevers, floodings, and death, have been occasioned by retentions of the secundines.

2dly. Floodings occasioned by a retention of the placenta generally cease by a timely removal of it.

3dly. The manual extraction of the placenta should never be attempted whilst there are any spasmodic contractions either in the neck or across the middle of the womb.

4thly. Opiates will generally remove these contractions.

5thly. Though many cases have happened when the placenta has remained some days in the uterus after the delivery of the child, without manifest injury, yet it is not generally safe for a woman to be left by the accoucheur before it is removed.

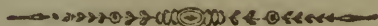
Lastly. When every part of the child is expelled solely by the contractile power of the uterus, in  
such

such a manner that the shoulders are permitted to make their proper turns, the woman having been kept in an horizontal position, and the cool regimen having been strictly observed, there will seldom or never be occasion for the manual extraction of the placenta.





## P O S T S C R I P T.



SINCE the foregoing papers were completed, I have with great pleasure perused a Treatise on the Puerperal Fever by the learned Dr. Hulme, which contains many excellent practical directions for the management of lying in women. He appears thoroughly convinced that Miliary fevers are the offspring of heated air and warm regimen, which opinion is strongly supported by the following fact : He says,\* “ I have attended more than fourteen hundred women in the London. lying in hospital, yet I do not remember ever meeting with an instance of the Miliary fever in that house. This I attribute partly to the cool regimen that is strictly enjoined to be observed there, but above all to the admission of cool air, which is ordered to be let in-

“ to

“ to the wards *every day*, at an opening in the win-  
“ dows. And probably it is for the same reason  
“ also, that I never have observed in that excellent  
“ asylum for pregnancy any *petechiæ*, *vibices*, *exam-*  
“ *themata*, *vesiculæ*, *puncticulæ*, or any other febrile  
“ eruptions, joined with the fever which we are  
“ now treating.” But although this method was  
effectual in preventing Miliary and other eruptive  
fevers, yet he did not find it sufficient for the pre-  
vention of the Puerperal fever. In fact, a cool  
regimen, and opening the windows in the day time,  
cannot alone prevent this fever in a ward which  
contains several lying in women, where the efflu-  
via from breathing and perspiration, and from the  
lochial discharge, becoming putrid by stagnation  
whilst the patient is in an horizontal posture, must,  
by being pent up during a whole night without  
ventilation render the air very foul and offensive.  
The juices that are extracted from meat by boiling  
are the most alkalescent parts of it, and of course  
the most improper in putrid diseases. Of all ani-  
mal diet, the least alkalescent are white meats of  
young, tame, lean animals, which have fed upon  
vegetables, are fresh killed by bleeding to death,  
and have been well boiled. The great quantities  
of broth allowed in the hospital diet, and that too  
often made with water replete with particles of pu-  
trid animal or vegetable substances, may contrib-  
ute

ute to increase a putrescent disposition, and give every slight feverish complaint a disposition towards putridity.

But as I have already given at large my ideas of the cause of this disease, I shall now confine myself to a few remarks upon Dr. Hulme's opinion concerning this matter. And I must first premise, that the Doctor, speaking of the cause of this disorder arising from pressure, says, "As I am no  
" practitioner in midwifery, I have not had an op-  
" portunity of attending so minutely to the differ-  
" ent complaints arising from this supposed pres-  
" sure during the state of pregnancy, as those who exercise that art." But whatever opportunities the Doctor may have been wanting in, to discover the true cause of this disorder, he seems to be thoroughly acquainted with it, when it is actually existing; and his directions for the cure of it are proper and judicious, and such as ought to be read by every person who directs the management of child-bed women.

In order, however, to form a just idea of the puerperal state in general, it is necessary to be acquainted with it in all its varieties, and not only when accompanied with disease, but in its more common situation of a mere regular and easy operation of nature.



The immediate cause of the puerperal fever, according to Dr. Hulme, is an inflammation of the intestines and omentum ; for the truth of which assertion he appeals to dissections. In each of the six dissections he has given, he likewise found a gangrene of the intestines or omentum, or both. Before we draw any conclusions from these appearances after death, it will be necessary to examine whether similar appearances have not been found after other disorders, and then to inquire whether those disorders were properly of the inflammatory or putrid diathesis. For both these purposes I beg the reader's attention to the following quotations selected from several authors of the highest character, who have given their observations without any view to hypothesis, but solely to advance real practical knowledge :

“ Upon opening the bodies of the dead I have  
 “ constantly found the great guts, either entirely  
 “ *mortified*, or partly *inflamed*, partly *mortified*, the  
 “ *rectum* being generally most affected ; in many I  
 “ have seen scirrhus tubercles straitening the cavity  
 “ of the *colon* in several places ; in a few there  
 “ were small abscesses in the cellular membrane of  
 “ the *peritonæum* contiguous to the *colon* and *rectum*.  
 “ Sometimes the small guts were perfectly sound  
 “ in appearance ; but more frequently their *lower*  
 “ *part* was *inflamed*, the *convolutions* being often pre-  
 “ ternaturally

“ *ternaturally connected to each other by membranes as*  
 “ the lungs sometimes are to the pleura. In two  
 “ people the *omentum* was almost entirely wasted,  
 “ the small remains of it being quite *black* while  
 “ *purulent matter* was found in the cavity of the *abdo-*  
 “ *men*; in several it was *inflamed*, and adhered both  
 “ to the guts and *peritonæum*; for the most part the  
 “ gall bladder was full of *dark bile*; and the spleen,  
 “ more or less, in a putrid condition.”

Cleghorn on the Epidemic Dif. of Minorca,  
 chap. 5. on the Dysentery, p. 246.

“ I have examined the bodies of near a hun-  
 “ dred persons who perished in these fevers, and  
 “ constantly found one or other of the adipose  
 “ parts in the lower belly, the *cawl*, *mesentery*, *colon*,  
 “ &c. of a *dark black* complexion, or totally *cor-*  
 “ *rupted*; the *vesica fellea* full and turgid, and the  
 “ stomach and intestines overflowing with bilious  
 “ matter.”

Ibid. Chap. 3. on Tertian fevers, p. 180.

“ That as there is the greatest tendency to pu-  
 “ trefaction through the whole course of the ill-  
 “ ness, it generally terminates, when it proves fa-  
 “ tal, either in an actual mortification of some part,  
 “ or in an abscess of the brain, often ichorous;  
 “ that the *intestines* more particularly are subject to  
 “ *mortify*,

“ *mortify*, as few die without cadaverous and involuntary stools.”

Sir John Pringle on the Jail or  
Hospital Fever, p. 303.

“ From the numerous dissections of those who died of the plague at Marfeilles, it appeared that some of the *viscera were always mortified and inflamed.*”

Traite de la peste, part 1.

Dr. Lind has favoured us with an account of some dissections which he had from Mr. Bogue, an ingenious surgeon at Titchfield, of persons who died of putrid intermitting fevers ; in one of them the seat of the disorder appeared to be in the liver, where two large abscesses were formed, but there was no *mortification* of any of the parts except the *omentum*, which he says was partly *mortified*. The *stomach* was found, but much *distended* with wind, and the vessels on the intestines in a state of plentitude. The rest of the viscera were perfectly found.

Essay on the Dis. of Europeans, p. 96.

Monfieur le Cat, in his account of those malignant fevers that raged at Rouen, gives us the following dissections of those who died of epidemical

bloody fluxes, preceded by lowness of spirits, attended with violent colics and a sharp fever :

“ One Le Fevre had blood discharged even up  
 “ to the stomach ; and the inner membrane of this  
 “ organ, towards the pylorus, was in the same condition with that of the great intestines of the  
 “ foregoing patient. The duodenum, jejunum,  
 “ and the beginning of the ileum, was found ; the  
 “ end of the ileum was inflamed ; and the end of  
 “ the large intestines were gangrened. In one,  
 “ called Saracin, the same intestines were all *mortified* ; the cæcum and half the colon were as large  
 “ as a stomach, distended *with wind*. Their canals  
 “ were full of a bloody matter, and their inward  
 “ membrane separated very easily. The gangrene  
 “ seemed particularly to affect this coat. The  
 “ stomach and small guts were found ; nevertheless, his death was preceded by the hiccough.”

Phil. Transf. vol. 49. part 1. p. 51.

“ Some of the malignant fevers which we had at  
 “ the Hotel Dieu in 1750, were reported to be  
 “ caused by infection conveyed in bales of horse  
 “ hair, to which was left some of the animals’ flesh  
 “ that was become putrified : And yet these fevers  
 “ did not differ from others which we have already  
 “ described.

“ Martha

“ Martha Renon, a girl of about twenty years of age, who died of this fever, had the mesentery filled with obstructed glands, and the *intestines* mortified in different places.”

Ibid. p. 55.

These quotations, I apprehend, will prove in the most convincing manner that inflammation and mortification of the intestines and omentum always constantly attend fatal fevers of the putrid or malignant class, where there can be no suspicion that these parts were the original seat of the disease; and that therefore such appearances upon dissection are only to be looked upon as the consequences of a particular symptom, and not essentially characterizing the disorder. The frequency of these appearances may probably be accounted for by what has been before observed of the liability of the intestines to receive a putrefactive taint, from their peculiar situation and texture, and the nature of their contents.

The chief predisponent cause of this fever is by Dr. Hulme supposed to be the pressure of the gravid uterus against the intestines and omentum. He says, “ The *omentum* in the latter part of pregnancy must either be flat, which is its natural situation, or be rumpled or carried up by the



“ gravid *uterus* in folds or doublings. When this  
 “ last is the case, which probably is not unfre-  
 “ quently so, the danger of a strangulated circula-  
 “ tion will be greater.” But were any thing of  
 this kind to happen, & Would not the disorder rather  
 take place before delivery, and be immediately  
 removed at that period ? This would certainly be  
 the case if any real analogy subsisted between the  
 cause of the puerperal fever, and the strangulation  
 of the intestines and omentum in a hernia ; since  
 the most alarming symptoms attending the latter  
 are immediately removed, unless the inflammation  
 is gone too far, as soon as the pressure causing the  
 strangulation is taken off, whether this be effected  
 by art or nature. If this were the true cause of the  
 puerperal fever, it would chiefly happen to women  
 at their first labour, when the abdominal muscles  
 are less yielding, and the pains more violent ;  
 which I do not find either from the instances he  
 has given, or those I have myself observed, to be  
 the case ; but rather the contrary. Upon this sup-  
 position too it is impossible to account for the dis-  
 ease being more common and fatal in large towns  
 and in hospitals, than in the country, and private  
 practice, whereas other inflammatory disorders are  
 more frequent amongst the hard labouring country  
 women, who use much violent exercise, than  
 amongst the sedentary inhabitants of a large town.  
 “ As soon as actual labour comes on,” the Doctor  
 says,

says, " the woman is seized with particular pains,  
 " returning at intervals, which occasion such re-  
 " peated convulsive motions upon the abdominal  
 " muscles and diaphragm as to force the child  
 " down into the *pelvis* and cause delivery. By this  
 " painful and laborious action the body is much  
 " heated, a fever, for the time being, is produced,  
 " the intestines and *omentum* are strongly rubbed,  
 " and ground as it were against the gravid uterus  
 " at every convulsive throe, till the child makes  
 " its way into the *pelvis*." This representation of  
 labour is not, I imagine, perfectly accurate. Those  
 pains which are called false or spurious do indeed  
 occasion convulsive throes in these muscles ; but  
 the chief agent in expelling the fetus is certainly  
 the contraction of the uterus, which is only assist-  
 ed and determined to a proper direction by the ac-  
 tion of the diaphragm and abdominal muscles.\*  
 Nor do I apprehend if their action were even as  
 violent

\* " It is of great importance to practitioners of midwifery to know, and  
 " constantly bear in mind, that the action of the diaphragm and abdominal  
 " muscles is not sufficient to empty the womb, and that the expulsion of its  
 " contents depends on the contractile powers of the muscular fibres which  
 " enter into its texture ; because this knowledge is what must regulate the  
 " manœuvres respecting the delivery both of the child and of the placenta.  
 " What are termed true labour pains are the result of repeated contractions  
 " in these uterine fibres, which persons experienced in this branch of prac-  
 " tice know well how to distinguish from the false pains, which are noth-  
 " ing more than spasmodic affections of the abdominal muscles ; the efforts  
 " from these false pains appear to force down the child, but are never  
 " found sufficient to expel it."

violent and forcible as the Doctor describes, that any inflammation would be raised by the pressure of such soft parts upon each other, where from the multitude of vascular anastomoses no degree of obstruction in the circulation can take place. The passage even of a stone through the gall ducts or ureters rarely occasions any disorder in those parts which is not instantly removed when the effort is over ; and certainly the compression which the omentum or intestines may suffer in a labour, cannot be compared to that of the lower part of the uterus while the head is passing between the processes of the ischia, in which situation it often continues many hours impelled by the strongest pains, without occasioning any subsequent inflammation. Neither does it appear that the puerperal fever is more common or fatal after the most laborious cases, nor where the spurious abdominal pains have been most urgent ; for all the late writers seem to agree that it comes on equally after the easiest deliveries.

The Doctor uses as an argument in favour of his hypothesis that it gives a satisfactory answer to this question, “ ¿ Why all lying in women have  
 “ been, and ever will be, subject to this disease ?—  
 “ because the causes that produce it are common  
 “ to pregnant women at all times, and in all climates.” Now it appears to me that the very strongest

est argument against it is, that the direct contrary is the real fact ; namely, that this fever does not take place in that general manner which from the assigned causes it ought to do. From my own observation I have long been thoroughly convinced of this ; however, to ascertain the fact with all possible precision, I have written to persons of the first eminence in the profession in many principal towns throughout these kingdoms, to several of whom this disorder is totally unknown. A gentleman deservedly of great eminence, who has had ample experience of this fever in London, informs me that he practised midwifery many years in one of the inland counties, and never met with that fever whilst he resided there.

Being informed that the puerperal fever was almost as common and as fatal at Northampton as in London, I was desirous, if possible, of finding out the cause, and I have been favoured with the following account from a gentleman of distinguished abilities in that place. He informs me, that  
“ when the lying in women are committed solely  
“ to nurses, they are generally kept in a close warm  
“ room, and plentifully supplied with wine or beer  
“ caudle, with aromatics ; sometimes even gin and  
“ other spirituous liquors, especially among the  
“ lower class of women, are preposterously admin-  
“ istered. They generally keep lying in women  
“ in

“ in bed four or five days after delivery. Where  
 “ the faculty are concerned, a cooler and more tem-  
 “ perate regimen is observed, and the patient al-  
 “ lowed to sit up the third day after delivery.”

I have just now been favoured with a letter from Dr. Young, Professor of Midwifery at Edinburgh, who is not only possessed of a principal share of private practice in that branch, but has the sole direction of a lying in ward in the Royal Infirmary in that city. Speaking of the puerperal fever, he says, “ We have no such fever, and, excepting  
 “ one woman who died in the lying in ward, seem-  
 “ ingly of a mortification after a very severe la-  
 “ bour, I have not lost one patient after delivery  
 “ for some time.

“ I have within these few years made a very  
 “ great change upon the method of treating wom-  
 “ en after delivery in this place, which was before  
 “ entirely in the hands of the women. The lying  
 “ in women are kept almost as cool as those who  
 “ are inoculated for the small pox, and they cer-  
 “ tainly recover much faster.”

By Dr. Price's observations, and by the bills of mortality, it appears that in Edinburgh the probability of a human life is as low as in London, and much worse than in Dublin, Manchester, or North-  
 ampton :



ampton : and though this last named town is the smallest of the five, and more healthful in other respects, yet the puerperal fever, by the best accounts I have been able to obtain, is almost as fatal there as in London, and much more so than in any of the other towns I have mentioned.

In London the puerperal fever was observed by some to be more fatal in the year 1770, than in any other year ; but I do not find that the same observation held good invariably either there or in other places. The fatality that attends the patients in some of the lying in hospitals, greatly exceeds that of any private practice, at least any that I have been acquainted with. In one publick lying in hospital, from the first opening on the 20th of April 1767, to the 29th of November 1772, 653 women have been delivered, of whom 18 died, which is more than one in 36 ; in this hospital the beginning of the year 1770 was particularly unfavourable ; for out of 63 women who were delivered betwixt the 30th of November 1779 and the 15th of May 1770, 14 died, which is in the proportion of one in  $4\frac{1}{2}$ . In the printed accounts of another lying in hospital from its first institution in November 1749 to the 31st of December 1770, there were 9108 delivered, of whom 196 died in the hospital after delivery, which is nearest one in  $46\frac{1}{2}$  ; out of the number, 890 were delivered in  
the

the year 1770, and 35 died, which is more than the proportion of one in  $25\frac{1}{2}$ ; the year 1760 was likewise very unfavourable to this hospital. In another hospital there have been since the beginning of the year 1747 to the present time, 4758 women delivered, and 93 have died, which is about the proportion of one in 51. The year 1771 was the most unfavourable to the lying in women in this hospital, for out of 282 delivered that year, 10 died, which is about the proportion of one in 28. In another lying in hospital I am informed, that the year 1770 was not unfavourable to the child-bed women, but the year 1771 was. But this general fatality does not seem to have attended every lying in hospital in London, for in one instituted about six years ago, 790 women have been delivered, and only six have died, viz. two of the puerperal fever, one in the year 1770, the other in 1771; three of floodings; and one of a consumption, which is no more than one in  $131\frac{2}{3}$ .

In the lying in hospital in George's lane, Dublin, from March 1745 to the first of October 1754, there were delivered 3206 women, and 29 died, which is about the proportion of one in  $110\frac{1}{2}$ .

In the new lying in hospital in Great Britain street, Dublin, from the opening on the 8th of December 1757, to the 31st of October 1775, there have been  
delivered

delivered in the hospital 10726 women, of whom 152 have died, which is nearly one in 70. In this hospital, in the year 1768, 633 women were delivered, and seventeen died, which is nearly one in 37. In the year 1770, 616 were delivered, and only five died, which is one in 135. Therefore, though it appears that the year 1770 was very fatal to the women in some of the lying in hospitals in London, yet it was remarkably otherwise in the lying in hospital in Dublin, and the year 1768 was the most fatal in that hospital.

It is worthy of observation of two hospitals, both situated at nearly equal distances from the centre of the same city, viz. London, both instituted about the same period of time, and both under the direction of men of considerable eminence in the profession, and nearly the same number of women having been delivered in both houses; that in one of them, they should lose in the proportion of one in 36, and in the other only one in 131 2-3.

In order to inform both myself and the public of every matter relative to so important a point, I have made farther inquiry into the cause of the great success of this particular hospital, and I am favoured with the following account by a gentleman who has eminently distinguished himself for his knowledge in this branch of practice. He in-

forms

forms me, that “ This hospital is situated near,  
 “ and open to the fields ; no particular care is  
 “ taken of their diet or regimen in any respect,  
 “ but there are scarcely ever more than four in the  
 “ same room, commonly two only ; and it is to  
 “ the open air and the confinement of so few in  
 “ one room that we impute the success.

“ Whereas in another hospital there are eighteen  
 “ or twenty in a room, which ought only to re-  
 “ ceive eight.”

Perhaps there are some other particulars relative to this hospital which may contribute very materially to its success. It was instituted for the purpose of instructing young gentlemen, and not only unmarried women, but even those of the most abandoned characters are admitted. It is not to be supposed that in an hospital of this kind unnecessary expenses of any sort are suffered to be incurred either in nursing or diet, and the patients are therefore obliged to do a good deal for themselves ; add to this, that these sort of women are of great spirits, impatient of confinement, and will not submit to it longer than they can possibly avoid.

I have endeavoured to form a calculation of the proportion of women who have died in childbed to those who have been delivered, in different towns,

towns, viz. London, Northampton, Manchester, Holy Cross in Salop, Chester, Warrington, Liverpool, Ackworth near Ferrybridge, Yorkshire, and several places in Germany; it is not in my power to do this with precision, as we cannot exactly determine the number of women who have been delivered every year in each town: However, from comparing the number of christenings with the number of women who have died in childbed, as taken from the bills of Mortality of these different towns for several years last past, we may form some probable conjecture. Yet if we make proper allowances for the stillborn and chrifoms, we shall find that the number of women delivered each year will greatly exceed the christenings, therefore the success of general practice will be much greater than is here represented.

In Manchester, registers of particular diseases have been kept no longer than eighteen years, and in the collegiate church only. These I have divided into three periods, in order to shew that though the town has increased in size and number of inhabitants, yet the danger attending childbed women has been diminished, which must chiefly be owing to the improvements in the management of them. It is to be lamented that these registers have not been longer kept, as the fatal period I have alluded to in the former part of this treatise  
when



when the fatality was occasioned by mismanagement, was prior to that time, during which period from my own recollection, I am very certain the misfortunes attending childbed women would greatly have exceeded the following calculations.

In London, from the beginning of the year 1737, to the end of the year 1753, being 17 years, there were 254252 christenings, and 3552 women died in childbed, which is the proportion of one in  $71\frac{1}{2}$ . In the last eighteen years there were 281304 christenings, and 3905 women died in childbed, which is in the proportion of one in 72. The most fatal years were 1761, when 289 women died in childbed, and there were 16000 christenings, which is in the proportion of one in 55; and the year 1762, when 272 died in childbed, and there were 15321 christenings which is in the proportion of one in 56. The year 1771 was the most favourable, when 172 women only died in childbed, and there were 17072 christenings, which is in the proportion of one in 99.

In Northampton, in the parish of Allsaints, from the beginning of the year 1737 to the end of the year 1753, there were 1535 christenings, dissenters included, and 20 women died in childbed, which is in the proportion of one in  $76\frac{3}{4}$ . In the last eighteen years there were 1602 christenings,  
and

and 20 women died in childbed, which is in the proportion of one in 80.

In the parish of Holycrofs, in Salop\*, from Michaelmas 1750 to Michaelmas 1760, there were 331 christenings, and 4 women died in childbed, which is about the proportion of one in 82. From that time to Michaelmas 1770†, there were 382 christenings, and 4 women died in childbed, which is about the proportion of one in 95.

In Manchester, at the collegiate church, from the beginning of the year 1754 to the end of the year 1759, there were 4117 christenings, and 44 women died in childbed, which is about the proportion of one in 93. From that time to the end of the year 1765, there were 4432 christenings, and 40 women died in childbed, which is about the proportion of one in  $110\frac{3}{4}$ . In the last six years there were 5251 christenings, and 47 women died in childbed, which is nearest one in  $111\frac{3}{4}$ . In the year 1770 there were 897 christenings, and eight women died in childbed, which is in the proportion of one in 112. In the year 1771 there were 1001 christenings, and 6 women only died in childbed, which is one in 167; this and the year 1759 were the most favourable to lying in women, and  
the

\* See Phil, Transf. vol. LII. p. 1. Art. 25.

† Ibid. vol. LXI. p. 1. Art. 6.

the year 1757 was the most unfavourable, for there were only 593 christenings, and 9 women died in childbed, which is in the proportion of one in 66.

These calculations are not however entirely to be depended on, as I find that more families have their children christened at the collegiate church than what bury there, but in the years 1772, 1773, and 1774, very accurate accounts were taken at all the churches and chapels in Manchester and Salford, by which it appears that there were 4035 christenings, and 44 women died in childbed, which is nearly in the proportion of one in  $91\frac{3}{4}$ .

At Chester, in the years 1772, 1773, and 1774, there were 1238 christenings, and 13 women died in childbed, which is in the proportion of one in 95.

At Warrington, in the years 1773, 1774, and 1775, there were 1124 christenings, and 10 women died in childbed, which is nearly one in 112.

At Liverpool, in the year 1772, there were 1108 christenings, and 11 women died in childbed, which is nearly in the proportion of one in 100.

At Ackworth, a small village near Ferrybridge in Yorkshire, from the 8th of December 1744 to the 31st of December 1773, being 29 years and a few days,

days, there were 559 christenings, and 6 women died in childbed, which is nearly in the proportion of one in 93.

In Leipfic,\* from the beginning of the year 1720 to the end of the year 1725, there were 5237 christenings, and 107 women died in childbed. In Lobau, in 1720, 160 were born, and 4 died in childbed. In St. Annabergh, 105 were born, and one died in childbed. At Schnubergh, 89 were born, and one died in childbed. At Rawits, 134 were born, and 15 died in childbed. At Ratisbon, in 1721, 250 were christened, and 2 died in childbed. At Coburg, in 1725, 206 were christened, and 2 died in childbed. Total 6181 christenings, and 132 women died in childbed, which is about the proportion of one in  $46\frac{3}{4}$ .

If we consider that the poor will be found to constitute the bulk of the people in almost every town ; that many of the poor women when in labour have very ignorant widwives, some of them much worse than none at all ; and that very few of them can be attended by regular, or even by any nurses, but are obliged to take care of themselves, destitute of proper assistance, and of even the necessaries of life, and perhaps afflicted with dangerous disorders ; if under all these disadvantages it

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should

\* Martin's Abridgment of the Phil. Trans, vol. 7. part 4.

should be found that the success attending them should be greater than that of some private practice among the affluent, or even the practice in some lying in hospitals, where all proper assistance is supposed to be at hand, we have great reason to apprehend mismanagement in some department or other.

It may perhaps be thought necessary to make some apology for these calculations and comparisons, especially those relating to hospitals, which are given with no other view than to the improvement of this branch of medical knowledge. I entertain the highest opinion of hospitals and infirmaries, especially those which are maintained, by voluntary subscriptions. They are the noblest of all charities, the least liable to abuse, and if it happen that some of them have not been so successful as others, the evil needs only to be pointed out, and I have no doubt but it will be remedied.

The buffy or fizy appearance of the blood in the puerperal fever is brought to show that it is an inflammatory disorder; but sometimes the blood drawn from such patients does not coagulate on being exposed to the air, as in the case which Mr. Hewson \* mentions of a patient in the British lying in hospital. The blood was drawn three days before



before her death, and Mr. Hewson has been so kind as to inform me that this patient was judged to have a true puerperal fever, as was evident both from her symptoms and from dissection : and possibly the blood might oftener have the same appearance if patients were bled late in this disorder. Most pregnant women have fizy blood where there are no symptoms of inflammation.

Sir John Pringle, Dr. Huxham, and others have observed that in putrid fevers the appearance of the blood is very various : sometimes, especially in the beginning of the disease, shewing an inflammatory crust, and very soon changing to a sanious and dissolved state, so that no certain indications can be drawn from it.

With respect to bleeding in the puerperal fever, I cannot upon the strictest inquiry find that those who have bled the most copiously have had the best success, either in private or in hospital practice. Dr. Hulme says, "Bleeding should only be looked upon as a secondary help, though it should always be first in point of time." Thus far he is certainly right, if it be adviseable at all; but I must own I have great doubts even about that in all cases indiscriminately. Emetics, cathartics, and clysters are certainly proper to cleanse the *primæ viæ*, and likewise such medicines and diet as

will correct the putrid colluvies ; but an upright posture and free ventilation are at all times useful, and absolutely necessary, both in the prevention and cure.

My patients generally sit up in bed in a few hours after delivery, some of them get out of bed the same day, most on the second, and none exceed the third ; and lest any inconvenience should be supposed to arise from this early upright posture, I think it necessary to declare that none whom I have delivered, are troubled with any *prolapsus vaginae*, or any other complaint which I have the least reason to suspect could possibly arise from such treatment.

Several difficulties which arise concerning the puerperal fever may, I imagine, be more consistently and satisfactorily answered from the ideas I have attempted to give of it than from any others. ¿ Why is this fever more common and fatal in some seasons than in others, under the same management of lying in women ? This must proceed from the different disposition of the air to favour putrid disorders which from various observations we know frequently takes place. ¿ Why in the very same ward of an hospital, and under apparently similar circumstances, should some be fatally attacked with the fever, and others entirely escape ? This is no more

more than what we see every day to be the case even in disorders which are the most infectious, which shows us that all persons are not equally liable to the same disease, nor the same person at different times and seasons. Why does not the foul air affect patients in the lying in hospitals before delivery as well as after ? This seems nearly to resemble what happens in ill ventilated hospitals where patients with large abscesses, white swellings of the joints, and the like, frequently escape fevers till the abscesses are opened or the limbs amputated, and are then immediately seized with putrid ones which soon destroy them ; both probably are owing to the same immediate cause, viz. the admission of air to the discharges, which are either already putrid, or will soon become so on the access of the air, in which case the putrid matter will be readily absorbed by the lymphatics, now open to receive it. I am informed, that in an hospital in London much crowded with patients, the surgeons observed that all those who had large lumbar abscesses, as soon as a considerable opening was made into them, were immediately seized with putrid fevers, and died in a few days, though they were in tolerable health before the opening was made ; this put them upon an experiment of letting off the matter gradually by a small trocar, and some days afterwards introducing a seton : The event was however the same in the end, only with this difference, that

these last named patients were not attacked so suddenly, and lived something longer ; but as soon as the foul air had free admittance, the same putrid fever came on with the same fatal effects. Different degrees of putridity will affect persons in different states. Lying in women are injured by a small quantity of foul air sooner perhaps than any other patients ; a second degree will affect those, who have wounds or ulcers internally or externally : A further degree will give a putrid fever to persons in perfect health, as frequently happens in jails, hospitals, and crowded barracks ; and there is a higher degree that will prove fatal in a few hours to the strongest constitutions, as in the case of our unfortunate countrymen at Calcutta. From hence we may infer why the puerperal fever is always attended with pain and tenderness in the hypogastric or iliac regions, and frequently upon the symphysis of the pubis. Because these parts lie nearest to the uterus and intestines, and are therefore most likely to absorb the putrid matter. ; Why is the lower part of the omentum generally mortified ? Because it lies in contact both with the uterus and intestines, and from its adipose nature soon acquires a gangrenous state.

Upon the whole, I am disposed to conclude, that though inflammation and mortification in some of the viscera have often been discovered, upon dissection,

fection, in those who have died of this fever, yet these appearances should rather be considered as the effect, than the cause. That the immediate cause is the absorption of acrid matter from the intestines and uterus; and frequently a deposition of it upon the omentum, peritoneum, or some of the viscera; and the predisposing causes are accumulations of feces in the intestines; a stagnation of the lochia occasioned by a horizontal position, and want of free ventilation at a time when the woman stands most in need of it: Under these circumstances it may happen either to the rich or the poor. As much, therefore, may depend upon the nurses, both in public and in private practice, it is earnestly to be wished, that accoucheurs would be very explicit in their directions, and that patients would not pay too blind a deference to the nurses when they act contrary to the advice of those whose knowledge is certainly superior, and whose province it is to direct.

I had finished this postscript before two papers containing some important information came to hand, the substance of which I am therefore obliged to insert here.

The first was a MS. copy of Dr. Hunter's excellent lectures on the gravid uterus, which I should very gladly have referred to in the body of my



my treatise to support, by so respectable an authority, my ideas of the power of nature in accomplishing the work of delivery in most cases without the help of art, and the necessity of closely attending to her operations in laying down rules for the safest and easiest practice. The Doctor, however, gives his pupils a dreadful account of the puerperal fever. He informs them that he has unfortunately seen a great deal of it in the hospital, particularly in one year, when it was so fatal that all the gentlemen attending, and all the patrons of the charity, held a consultation to debate whether the house should not be shut up. That in two months thirty two patients were seized with the fever, of whom only one recovered. That various methods of treatment were put in practice; some from the beginning of the disease were bled, some were treated with cooling medicines, others with warm medicines and cordials, but every thing proved equally unsuccessful. In private practice the fatality was very great, and at least three in four who were attacked with the fever, died.

The other piece of information I received was contained in a letter with which I was favoured by Professor Young of Edinburgh. It relates to the lying in ward at the infirmary in that city, and when compared with the account before given of the success attending it, will serve to confirm the directions

directions I offered concerning the construction and mangement of these hospitals.

The lying in ward at Edinburgh infirmary is a very large room which holds ten beds. There is but one fire place, which is at one end of the room ; and the door, which is almost always open, and is on the head of the staircase, where there is a constant ventilation, is placed at the opposite end. As the ward is subject to smoke, a window near the door is frequently open. There are ten windows, and the height of the room is about fourteen feet. The women have all single beds at some distance from each other. They generally get up on the second or third day, and are dismissed about a fortnight after delivery, sometimes sooner where they have families which require their care.

Other circumstances attending this ward may deserve notice. No patients are received from the middle of July to the 12th of November, by which means it is sufficiently purified every year. None are admitted but such as will submit to be delivered by the students ; therefore the same reasons may concur here which are mentioned in page 238, as probably contributing to the success of a particular hospital in London.



# A P P E N D I X

TO THE

## S E C O N D E D I T I O N .



THE most material improvements which the preceding Volume has, I flatter myself, been a means of introducing into the management of pregnant and lying in women, are the following : 1st. The use of a cold or temperate bath during the state of pregnancy, and that of giving suck. 2dly. Permitting the shoulders of the child to be expelled by the labour pains only, instead of hurrying them away forcibly in one direction without suffering them to accommodate themselves to the dimensions of the pelvis by making their proper turns. 3dly. Allowing the circulation between the child and placenta to cease spontaneously, instead of immediately intercepting it, as soon as the  
child

child is delivered, by tying the navel string. 4thly. Placing the woman in an upright position as early after delivery, and as frequently, as possible. These are all points which deserve an attentive consideration ; and as an additional experience of four years has enabled me to speak of them with still greater confidence, and to enforce them by later observations, I shall include what I have farther to communicate on these subjects, together with some additional remarks upon the puerperal fever, in an appendix.

I. In the body of this work I have strongly recommended the use of the cold, or rather temperate bath, in preventing miscarriages, and many other disorders incident to the pregnant state. I can now confirm the efficacy of this preventive remedy from ample experience, in a great number of different constitutions. So efficacious, indeed, it has proved, that I have not known a single instance of its failure, except where the patient has received some violent injury. This was the case with a lady who miscarried in consequence of a fall down stairs ; but returning afterwards to the use of the bath, she conceived again ; and continuing the bathing the whole period of gestation, became the happy mother of a fine child, though she had before met with frequent disappointments.

I must here likewise confirm what I before observed concerning the excellent effects of the same remedy in increasing the secretion of milk, and preserving the health during the time of suckling; and particularly in preventing the colds to which nurses are so liable. Several ladies of my acquaintance are so sensible of these benefits, that they constantly bathe three or four times a week while pregnant and giving suck, intermitting it only during the month of their lying in, and some scarcely so long.

It is a just and important observation which Dr. Hunter makes in his lectures, that “although women usually miscarry at eleven or twelve weeks, the fetus has generally been blighted, or removed out of the circulation at seven or eight weeks.” This fact suggests an essential remark concerning bathing; that if it be not begun before the term at which the uterine fruit is generally blighted, no good can be expected from it in preventing miscarriage.

II. The common practice of pulling at the child's head the instant it is born, and thereby preventing the shoulders from making their proper turns, is productive of more bad consequences both to the mother and child than might at first be apprehended. The child is a sufferer, as well by  
overstraining



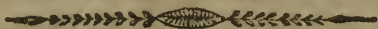
overstraining the muscles of the neck in the action of forcibly dragging it forwards, as by the pressure of the shoulders against each side of the chest, whilst they pass through the bones of the pelvis in a wrong direction. It is obvious that by these means its shape will be greatly altered, perhaps so as never perfectly to recover itself ; which may lay the foundation of various diseases. The effects on the mother are probably more pernicious in stretching and relaxing the ligaments of the womb, the internal coat of the vagina, and the other parts subservient to generation : Whereby prolapsuses of the vagina and anus, and a train of other disagreeable complaints may be occasioned. But there are, I am persuaded, more immediate bad consequences accruing to the mother. By forestalling nature in the expulsion of the child, the pains are so weakened as to be rendered insufficient to expel the placenta. Before I became sensible of the absurdity of this mode of practice, I was frequently obliged to extract the placenta by manual operation ; but for many years past this has never happened to me in any case where I myself had delivered the child. Gently pulling at the *funis* has always proved sufficient for the purpose ; and from analogical reasoning I shall conclude that even this slight assistance would be unnecessary, were not the generality of women in our age and country in a state very unfavourable to the full exertion

ertion of their natural powers. By the too hasty delivery of the child likewise, afterpains are occasioned, as by this means the mouths of the sinuses or uterine veins are permitted to close too suddenly.

III. In the year 1775, a gentleman in London, of deserved eminence in his profession, printed a short paper which he intended to put into the hands of every practitioner of midwifery with whom he was acquainted. Its purport was to recommend a method, which he supposed to be new, of managing the navel string at the time of delivery. He had communicated his observations on this head to his pupils the winter before ; and had shewn the paper in manuscript to several medical gentlemen, who all approved of it, as inculcating a new and useful mode of practice. A few days after the paper was printed, he was much surpris'd when shewn by a student that I had recommended in such explicit terms, and from similar motives, the same practice. He immediately wrote me a very friendly letter, with a relation of the matter, and inclosed one of the papers. As many of my readers may not have seen this little tract, and the point propos'd is very ingeniously maintained by the author, I shall without apology reprint it entire.



AN OBSERVATION ON THE MANAGEMENT  
OF CHILDREN AT THE TIME OF BIRTH.



“ IT hath been a matter of the most serious consideration to those who have had the care of very young children, to see so great a number born dead, or die after an imperfect existence of a few hours or days. With a view of preventing these accidents, which, though sometimes unavoidable, have more frequently seemed to be owing to mismanagement, I presume to recommend a method, which, as far as my experience enables me to judge, is much preferable to that which is usually followed.”

“ To explain my opinion, I will call the life of a child *in utero* fetal life, and the life which is consequent to respiration, animal life.

“ From very hard and tedious labours, and from other causes, children will sometimes be born with-

R

out

out any apparent signs of life. But if we apply the hand to the side; or examine the navel string, we shall often be sensible of a strong and regular pulsation in the heart, or in the arteries of the navel string.

“ Under such circumstances it hath been thought proper to treat the children as apoplectic; and with a view of preventing those ill consequences, which were apprehended from the accumulation of blood in the brain, it has been judged necessary to divide the navel string, and to suffer the vessels to discharge a small quantity of blood.

“ This method I have repeatedly tried, and the almost uniform consequence has been the death of the child. In many instances, when children have breathed or even cried, on tying the navel string, they have drooped and died, or afterwards have been recovered with great difficulty.

“ Nor shall we be surpris'd at the event, if we consider that in such a state the life of the children was merely fetal, in the same manner as if they were yet *in utero*.

“ By dividing or tying the navel string, the fetal life was instantly and entirely destroyed, and the children not having acquired animal life, must inevitably perish.

“ The

“ The fetal life and the animal life, never exist in perfection at the same time ; but as the animal life improves, the former gradually declines, and is at last destroyed.

“ Thus, when a child is born with signs of the most perfect life, there is a pulsation in the arteries of the navel string. If the child should continue to breathe or to cry, this pulsation abates, and in a short time entirely ceases.

“ Should a child be born very feeble, and neither breathe or cry, the pulsation of the arteries of the navel string may nevertheless be often perceived, till the child acquires perfect animal life, or till it be entirely dead.

“ It is curious to observe the manner in which the pulsation of the arteries of the navel string declines. It first ceases in that part which is nearest to the mother, and the column of blood is thrown at every stroke of the heart of the child to a less distance ; so that at last, the blood which circulated in the fetal part of the *placenta*, resides in the child.

“ The pulsation of the arteries of the navel string proves the existence of the fetal life. The existence of the fetal life proves the imperfection



of the animal life. While the animal life is imperfect, the fetal life ought not to be destroyed.

“ The navel string therefore should never be divided or tied, while there is any pulsation in its arteries.

“ Another method has been advised for the recovery of children born apparently dead. Instead of dividing the navel string, it has been recommended to press the blood contained in it from the mother towards the child.

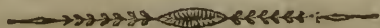
“ But this method may produce inconveniences of another kind ; for, if much force be used, it seems impossible absolutely to prevent or to suppress the action of the heart of the child. As we are ignorant whether the inactivity of the heart proceeds from a defect or an excess of blood, it is not prudent to interfere with the efforts or proceedings of nature, lest we should impede or interrupt rather than forward her operations.

“ I have only considered the treatment of children newly born, as favourable or unfavourable to their immediate recovery. It is not however unreasonable to suppose that the wrong management of children at the time of birth, may be the cause of many of the diseases to which they are subject.

For

For if they are prevented from acquiring perfect animal life, and are, immediately after birth, deprived of a certain quantity of blood, which may, at least, be esteemed the medium by which life is preserved, we cannot wonder that they are more liable to diseases, and less able to struggle with the attending danger.

“ I should not even hesitate to declare my opinion, that many of those diseases of more advanced age, which have been esteemed hereditary, may have been occasioned by imprudent management at the time of birth : For those constitutions must necessarily be infirm which were never in possession of perfect life.”



IV. The presence or absence of the puerperal fever being, as I conceive, very nearly connected with the maintenance of an horizontal or an upright position after delivery, I shall under this head comprise what I have to add concerning both these subjects.

Writers are still much divided in their opinions of the cause, and even of the nature of the puerperal fever ; some ranking it under the class of inflammatory, some of putrid diseases, some calling it a mixture of both, and some a fever *sui generis*. The very attempt to class it has been attended

with some disadvantages, by rendering the difference of opinion concerning it greater, and what is worse, by influencing practice. Dissections themselves have not assisted much in clearing up this matter, as the appearances have not been always similar, and different conclusions have been drawn from the same appearances.\* It is obvious that till some greater certainty be obtained with regard to the cause and nature of this disease, all attempts  
towards

\* The following observations of my worthy friend Mr. J. Hunter, may not perhaps be here improperly introduced.

“ An accurate knowledge of the appearances in animal bodies that die of a violent death, that is, in perfect health, or in a sound state, ought to be considered as a necessary foundation for judging of the state of the body in those that are diseased.

“ But as an animal body undergoes changes after death, or when dead, it has never been sufficiently considered what those changes are ; and till this be done, it is impossible we should judge accurately of the appearances in dead bodies. The diseases which the living body undergoes, mortification excepted, are always connected with the living principle, and are not in the least similar to what may be called diseases or changes in the dead body : Without this knowledge, our judgment of the appearances in dead bodies must often be very imperfect, or very erroneous ; we may see appearances which are natural, and may suppose them to have arisen from disease ; we may see diseased parts, and suppose them in a natural state ; and we may suppose a circumstance to have existed before death, which was really a consequence of it ; or we may imagine it to be a natural change after death, when it was truly a disease of the living body. It is easy to see, therefore, how a man in this state of ignorance must blunder, when he comes to connect the appearances in a dead body with the symptoms that were observed in life ; and indeed all the usefulness of opening dead bodies depends upon the judgment and sagacity with which this sort of comparison is made.” *Phil. Trans.* vol. 62. p. 447 and 448.

towards a rational method of prevention or cure will be vain.

There are, however, some particular symptoms attending it, which if accurately investigated, may greatly assist our inquiries. The most distinguishing and inseparable symptom of all others is the *quickness* \* of the pulse, whatever other quality be joined

\* "The pulse has almost an invariable and unusual quickness from the beginning."

Denman,

"In the cold fit the pulse was quick and small, and the pulsations so feeble and indistinct, that sometimes I was hardly able to number them exactly. When the hot fit came on, though it was then more full and distinct, it still remained quick, but was seldom hard or strong, except in a few instances, where the patient was young and plethoric. In general, it would beat from ninety to one hundred and thirty seven strokes in a minute."

Leake on the Childbed Fever, &c. p. 45 and 46.

"As they became more and more exhausted, and within a few hours of death, the pulse, which was exceedingly quick, and almost imperceptibly weak, at last was insensibly lost in a tremulous flutter."

Ibid. p. 50.

"The pulse in general, is quick and weak; though sometimes it will resist the finger pretty strongly. At the beginning of the disease, it seldom beats less than a hundred strokes in the space of a minute; and from this number, I have found it run on to one hundred and sixty."

Hulme on the Puerperal Fever, p. 5.

"Nay, so infallible is the beat of the pulse, with respect to number, that though all the other symptoms should abate, and the disease seem to be gone off, yet if the pulsations do not decrease in proportion, a relapse, or some other disorder, is to be feared."

"A

joined to it, which constantly occurs whenever this fever exists in any alarming degree; and from which the degree of danger may be estimated more certainly than from all the other symptoms put together. This immoderate quick pulse is not the constant attendant of inflammatory, putrid, nervous, or eruptive fevers; but every surgeon conversant with business knows that it never fails to attend absorption of matter from abscesses or ulcers, whatever be the other concomitant symptoms, or the quality of the matter. The physician also knows it is constantly present in ulcers of the lungs, and other internal parts of the body.

In lumbar abscesses, and those of the larger joints, it is no uncommon thing for the patient to remain in a state of perfect health till the abscess be opened either by art or nature, and the air gets admission. But in a few days after this, pain, soreness and tenderness of the neighbouring parts, or perhaps of the whole body, are perceived; a fever supervenes, sometimes preceded by cold shiverings, and succeeded

“ A diarrhea coming on at the beginning, if followed by a slower pulse, prognosticates safety. But if after evacuations by stool, whether procured by nature or art, the pulse should not become slower, it is to be reckoned as one of the most dangerous symptoms.”

Ibid, p. 31 and 32.

“ They are commonly taken as with an ague fit; there is a strong shivering with a great heat, which is succeeded by a pain in the limbs and back, and a violent hurrying pulse,”

Hunter's MS. Lectures.



succeeded by burning and sweating; at other times creeping on insensibly, but always accompanied with an immoderate quick pulse: A diarrhea and pains in the abdomen frequently follow; and the progress of the disease is so rapid, that sometimes in ten or twelve days, notwithstanding the use of every remedy, death closes the scene. In crowded hospitals these symptoms occur with much greater violence than in private practice. If the diseased part be so situated as to be removeable by amputation, and this operation be performed before absorption has taken place, or has proceeded too far, all this train of symptoms may be either entirely obviated, or removed by it; and I have seen many cases in which, after the patient, from too great delay, had been brought to the brink of the grave, the application of sponge to the stump, according to the method described by Dr. Kirkland, has occasioned a perfect recovery; the quickness of the pulse being immediately abated, and all the other symptoms alleviated, as soon as the sponge, by imbibing the acrid or putrid matter, had prevented its absorption.

Let us now inquire what farther circumstances there are, besides that of the quick pulse, to make it probable that the puerperal fever is occasioned by absorption. Notwithstanding the several writers whose attention has been of late so much excited

cited by this fever have differed considerably concerning the cause of the disease, and the method of cure, they have certainly observed its appearances with great accuracy, and described them with equal minuteness and fidelity. Their observations may therefore be referred to as sufficient authority, and the following are of much weight in the opinion I mean to establish.

Dr. Denman\* says “ she also feels great pains  
 “ in the back, hips and groins, and sometimes in  
 “ one or both legs, which swell, appear inflamed,  
 “ and are exquisitely painful.” A little farther he  
 says, “ In some there will be a translation of the  
 “ disease to the extremities, where the part affected  
 “ will become inflamed, and a large abscess be  
 “ formed.” In another place he says, “ Should  
 “ abscesses be formed in the breasts, they are al-  
 “ ways much lamented, but there is great reason to  
 “ conclude, that they prevent more grievous and  
 “ dangerous complaints.”

Dr. Leake says† “ some of those who survived,  
 “ recovered very slowly, and were affected with  
 “ wandering pains, and a paralytic numbness of the  
 “ limbs, like that of the chronic rheumatism. Some  
 “ had critical abscesses in the muscular parts of the  
 “ body,

\* Essay on the Puerperal Fever, second edit. p. 9.

† Practical Observations on the Childbed Fever, second edit. p. 59.

“ body, which were a long time in coming to sup-  
 “ puration, and, when broke, discharged a sanious  
 “ ichor.”

Again, “ Those who were seized with this fever  
 “ were not subject to abscesses of the breasts ; and  
 “ of those who happened to have such abscesses,  
 “ I have never known one die ; neither are they  
 “ subject to a diarrhea, or much symptomatic fe-  
 “ ver, although the pain attending a suppuration  
 “ of the breast is often very acute.”

If to those considerations we add, that as the puerperal fever is more fatal in large cities and crowded hospitals than in places where the air is more open and pure, so is the fever occasioned by absorption of matter—that as the former is more fatal in some peculiar constitutions of the air than in others, so is the latter—that as the puerperal fever does not appear till after delivery,\* so neither  
 does

\* Till such a change is produced, women are not “ subject to this fever ;  
 “ for I have observed, that those with child, who assisted the nurses in at-  
 “ tending the sick, were perfectly free from it, even when it was most rife ;  
 “ but being delivered, several of them sickened soon after, and were affected  
 “ with the same symptoms as the rest.”

Leake, p. 88.

Some are of opinion that there are not wanting instances of the puerperal fever being formed before delivery : But, ¿ May not these suggestions arise from sometimes observing cold shiverings before and during the time of labour ? And if a puerperal fever come on soon after delivery, ¿ Might they  
 not

does absorption of matter from an abscess till it be opened and the air have access—we may, I think, with a good degree of certainty conclude that the absorption of matter is the immediate cause of the puerperal fever, as well as of that consequent upon abscesses and ulcers. This matter is either carried off by some of the emunctories, as by stool, which is the most frequent, by a fresh flow of the lochia, or by sweat ; or else it is deposited upon some part of the body. If in the cavity of the abdomen, upon the lungs,\* the liver

not conclude that those cold shiverings were symptoms of that fever ? But these I have so frequently seen without the puerperal fever supervening, or the least bad consequence ensuing, that I am certain they are not to be depended on. Women however *before* delivery are not exempt from other fevers, and *after* delivery those fevers may change their type and degenerate into the puerperal ; nay, I even think it more than probable that if there be a fever of any kind at the time of delivery, it may occasion an absorption after delivery, and so bring on one of the puerperal kind.

\* A cough, shortness of breathing, together with pleuritic and peripneumonic symptoms frequently occur in this disease, and morbid appearances in the chest have been found upon dissection.

“ It is almost needless to remark that this fever must of course, be complicated with any disorder that the patient might happen to labour under at the time of childbirth. The chief that I have met with in this way of any consequence, hath been the *phthisis pulmonalis*. If any disease hath taken its immediate origin, as it were, out of the puerperal fever, and been combined with it, it hath been the peripneumony. I have met with several instances of this kind.”

Hulme, p. 15.

“ Both lobes of the lungs were inflamed, and somewhat black, particularly in their most dependent part.”

Ibid. p. 41.

———“ Adhesions

liver,\* or upon any of the viscera, it generally proves fatal ; if upon the breasts, the limbs, or any of the external parts, the patient always recovers.

Let us next inquire what is the source of the matter thus absorbed. That the increased bulk of the uterus in the latter months of pregnancy should, by its pressure on the intestines, obstruct the free discharge of the excrements, may readily be conceived, and is known, by every practitioner, frequently to happen. Dr. Denman† has a very just observation relative to this. Speaking of the stools in the puerperal fever, he says, “ they are  
“ very fetid, of a green or dark brown colour, and  
“ working like yeast, and it is remarkable, that af-  
“ ter the long continuance of the looseness, when  
“ the patient has taken little nourishment, *large*  
“ *and*

———“ Adhesions of the lungs to the pleura ; a collection of putrid serum in the thorax, and matter under the sternum, as in the case of Harriet Trueman——on inquiry of the patient’s friends, I could not find that she  
“ had ever been in the least subject to any complaint in the breast.”

Leake, p. 93.

\* “ In una, quantum comperi, jecur erat mollis, enormis, et postquam percissum est, abcessum continere repertum.”

*Diff. Med. Inaug. de Febre Puerper.*

*Patr. Keary, Edin. 1774, p. 8.*

Dr. Hulme, p. 43, says, “ The liver was of an extraordinary magnitude: in the right lobe was found a very extensive abscess.”

† Ibid. p. 13.



“and hard lumps of excrement will be sometimes discharged; which one might suspect to have been lying in the bowels a long time before delivery.” He is so particular in this observation, that he repeats it in another place.

The horizontal position to which women are so frequently confined after delivery, greatly favours an absorption of the *lochia*. As this matter seems but imperfectly understood, no proper distinction having been made between the *absorption* and *obstruction* of the *lochia*, I shall beg the reader's patience while I attempt to give my ideas of it somewhat at large.

Writers agree that the puerperal fever attacks indifferently persons who have had a small, or a large discharge of the *lochia*. This is a well founded fact; but from hence they have concluded that the *lochia* can have no share in producing the disease—a conclusion to which I cannot assent. In other cases it is constantly found that matter will be absorbed, whether the discharge be small or great; and, what may seem extraordinary, it is frequently seen that where the discharge is in the largest quantity, the absorption is most considerable. But absorption may in all cases be increased, and in some entirely caused, by such an unfavourable position as may occasion the matter to lodge  
in

in a wound, where, growing acrid, it will produce inflammation and fever by its irritation. By the application of sponge, an incision in the most depending part, or mere alteration of position, these symptoms frequently soon disappear; the matter becomes more laudable, and is even diminished in quantity. We shall presently see how these observations apply in the puerperal fever.

That accurate anatomist, Dr. Hunter, has discovered the false or spongy chorion, called by him the *caduca*, or *membrana decidua*, to be a *lamella* or efflorescence of the womb, which peels off from it like a slough at each successive birth. It is an opaque membrane, thicker than the true chorion, and exceedingly tender in its texture, being hardly firmer than curd of milk or coagulated blood. It is however vascular, having vessels which carry red blood from the uterus. It is not to be injected by injecting the placenta, being not a fetal, but an uterine part. After delivery, the greatest part of this membrane is left behind, grows putrid, gradually dissolves, and comes away in a fluid state along with the cleanings. It frequently however, is so long in separating, that on dissection\* of several who have died of the puerperal fever, the inside of the uterus has been found lined with it; and it has been of so black a colour, that the womb

\* See Leake, p. 75, and 179.

womb itself has been supposed to be mortified, till the mistake was discovered by wiping off this substance. Thus we have a matter entirely fitted for absorption ; and as the communication between the mother and child is carried on not by continuity of vessels between the placenta and uterus, but a reciprocal absorption of blood by means of patulous orifices, we may conclude that the womb is an organ of all others the most favourably formed to absorb.

That patients in this fever should generally complain of pain and foreness at the lower part of the belly ; and that the omentum, peritoneum and intestines should, frequently, be first and principally affected, and on dissection be found inflamed, suppurated or gangrened, might naturally be expected from their contiguity to the source of the absorbed matter. These are the common consequences of the deposition of acrid matter upon a tender part. But the inflammation excited in this manner in a relaxed habit, and happening frequently after a considerable loss of blood, is very different from one occasioned by obstructed perspiration, in a plethoric habit, where no considerable evacuation has preceded. Dr. Leake relates the case of Sarah Evans, p. 224, who was of a very delicate irritable habit and lax fibres ; she was seized with this fever on the third day after delivery,

cry, when her skin was moist and her pulse quick and weak ; she died on the 12th day. On opening the body, evident marks of inflammation appeared, particularly in the abdomen ; a great part of the omentum was destroyed and converted into matter, and what remained was become gangrenous, &c.—The Doctor makes the following remark.

“ Where the pulse was extremely soft and weak  
 “ and the circulation languid, it is difficult to ac-  
 “ count for so sudden and high a degree of inflam-  
 “ mation as to produce a collection of matter, or  
 “ any inflammatory affection of the abdominal  
 “ viscera ; but so it was.”

In another place, he says, “ Considering the  
 “ languid state of the patient, and the weakness of  
 “ the pulse, even in the beginning of this fever, I  
 “ was surprised to find that the inflammation had  
 “ sometimes run so high, and made so rapid a  
 “ progress, as to produce matter in the abdomen  
 “ so early as the *fourth* or *fifth* day after the first  
 “ attack ; as will appear in the case of Harriet  
 “ Trueman.”\*

He also observes,† “ that in the winter months,  
 “ when the childbed fever began, the weather was  
 “ observed to be remarkably mild and moist,  
 “ with a warmer temperature of the air than was  
 “ natural

\* Leake, p. 106. † Ibid, p. 37.

“natural to the season.” But it is well known that true inflammatory disorders prevail most in cold dry easterly winds.

In regard to the prevention and cure of this fever, there is not, I believe, a man of eminence in the profession who is not thoroughly convinced of the necessity of pure, free, and even cool air; though perhaps their directions on this head are seldom so strictly put in execution as might be wished. But there is another point of practice which is by no means hitherto settled; this is the position of the patient for some time after delivery. Several of the first accoucheurs and principal nurses in London keep their patients in bed for five or six days, or more, without ever permitting them to get out of it, and what perhaps is worse, without suffering them to sit up in bed, or even raise their heads from the pillow. And one gentleman, deservedly of high character in the profession, in a late publication has declared, “that in his own practice he has seen more frequent instances of the puerperal fever from early sitting up than from all other accidental causes united.” Were this, however, the real cause of puerperal fevers, it would be astonishing that any of my patients should escape them, as I constantly direct them to sit up in an hour or two after delivery, and to repeat it as frequently as possible, and even to get out of bed  
in



in less than twenty four hours ; and it is seldom that they exceed this period. One lady, indeed, whom I attended in two lyings in, lay in bed five days each time, and in one of them was for the most part confined to a horizontal posture ; and in that she had a puerperal fever ; whereas this disease has very rarely occurred among others whom I have delivered, and has never once proved fatal. Perhaps in London it may be thought early to sit up in one day after delivery, or to get out of bed in two or three. Now if a horizontal position has been constantly maintained for that time, and the seeds of the puerperal fever have been thereby sown, the sudden change of posture and of clothing may perhaps make it shew itself somewhat sooner than it would otherwise have done ; and this I think I have seen.

I have taken some pains to inquire both of the gentlemen of the faculty, and the most intelligent nurses, whether they had other reasons besides that already mentioned for keeping their patients so long in a horizontal posture ; and as far as I can learn, early sitting up occasioned, as they imagined, a prolapsus of the vagina, or bearing down, as it is commonly termed. But I have already declared my opinion that this complaint is generally owing to a quite different cause, the forcible extraction of the shoulders of the child ; and I can

affirm in the most positive manner, that early sitting up has never produced it in the slightest degree, in those whom I have delivered.

That a horizontal position should promote that absorption of matter which I consider as in great measure the cause of puerperal fevers, will appear probable from various considerations. The weight of the uterus in this posture carries it close to the vertebræ, and causes its sides to approach each other, so as to render its figure flatter ; by which means its contraction must be impeded, and consequently the expulsion of its contents retarded. The discharge of the lochia, too, is not, in this case, assisted by gravitation ; hence they will be apt to lodge and stagnate in the transverse rugæ of the vagina. Whereas an upright position produces effects the contrary to these. The uterus pressing forwards upon the soft *parietes* of the abdomen, will meet with no obstacle to its contraction ; and the lochial discharges, finding a ready exit by a depending orifice, will drain off as soon as they have acquired sufficient fluidity.

An observation from natural history may be adduced in confirmation of this idea of the different effects of an upright and a horizontal posture. No quadrupeds are found to menstruate, except some of the monkey tribe ; and of these, according to  
that

that eminent naturalist Mr. Buffon,\* only such as either habitually or occasionally use an erect posture in sitting or walking, are subject to this periodical discharge.

By the mode of practice which it has been the purpose of the foregoing treatise to inculcate, I have hitherto been able either to prevent, or if called in time, to cure the puerperal fever; but when it exists in that malignant endemic form in which it sometimes appears in a lying in hospital, I fear no method, as yet proposed, will be sufficient to stop its ravages. Under these deplorable circumstances, one remedy, which has not, I believe, been mentioned by any writer on the subject, might be tried without the imputation of rashness. This is a bath of such a degree of temperature as only to give a gentle shock. Warm bathing has been used without success. Dr. Leake† says, “ One would have imagined  
“ that the *warm bath* bid fairer to answer this inten-  
“ tion than any thing else, as it acts like an uni-  
“ versal fomentation applied to the surface of the  
“ body ;

\* “ Le Gibbon, Le Magot, &c. Les femelles sont, comme les Femmes, sujettes a une ecolement periodique de sang.” Tom. 14.

“ Le Coaita, L'exquime, &c. Les femelles ne sont pas sujettes a l'ecolement periodique.” Tom. 15.

“ Simia — Femina menstruat.”

Linnaei Syll. Nat. Vol. I. p. 25.

“ body ; and the rather, since it has been found to  
 “ procure almost instant ease in other disorders of  
 “ the bowels ; but to the confusion of all theory,  
 “ in those cases where it was tried, it by no means  
 “ answered my expectation ; and from what I  
 “ could learn, succeeded no better with others ;  
 “ for the greatest part of those died for whom it  
 “ was directed.” That a temperate bath might  
 prove efficacious in preventing the diseases to  
 which lying in women, from too delicate treat-  
 ment, are liable, we have some reason to conclude,  
 from the practice which, both in ancient and mod-  
 ern times, has prevailed in many parts of the  
 world, of bathing immediately after, and in some  
 before delivery, in water of the common tempera-  
 ture. Some examples, which might easily have  
 been multiplied, of the prevalence of this custom,  
 are inserted in the notes.\* Whether, while the  
 puerperal

\* With respect to ancient testimonies of this practice, we have the fol-  
 lowing passage in the *Andrian* of Terence, Act. III. Sc. 2.

L E S B I A.

Adhuc Archillis quæ adsolent, quæque oportet  
 Signa ad salutem esse, omnia huic esse video.  
 Nunc primum fac, isthæc ut lavet ; post deinde,  
 Quod jussi ei ante bibera, & quantum imperavi,  
 Date : Mox ego huc revertor.

Madame Dacier's remark upon these lines is much to our purpose. 3. *Nunc primum fac, isthæc ut lavet.* La premier chose que vous devez faire c'est de la baigner. C'étoit la coutume en Grèce, des qu'une femme étoit accouchée on la mettoit au bain. Il y a sur cela un passage remarquable dans Callimaque, & un autre dans Lucien,

puerperal fever is actually present, this practice might with safety or probability of success be employed, I shall not venture to determine. In an obstinate

The passage in Callimachus here referred to proves that women bathed in a *running stream* immediately after delivery.

Ενθά ἐπεὶ μήτηρ μεγάλων ἀπεδήκατο κόλπων,  
 Αὐτικά διζήτο ρόον ὕδατος, ὡ κα τόκοιο  
 Λύματα χυτλώσαιτο, τεὸν δ' ἐνὶ χρωτα λοίσσαι.

Hic te postquam mater magno deposuit ex utero,  
 Statim quaerebat rivum aquae, quo partus sui  
 Sordes ablueret, tuumque corpus purgaret.

Some of the most particular and best attested modern accounts of this custom, are the following :

“ The Americans that inhabit the Isthmus of Darien, make no difficulty of plunging into cold water when they are in a sweat, to cool themselves ; likewise the mothers with their children bathe in cold water immediately after they are brought to bed. This is certain, that they never receive any damage from this custom ; whereas, on the contrary, many women suffer greatly in these parts from too delicate a regimen.”

Brookes's Nat. Hist. Vol. I. p. 175.

The following quotation is taken from *Wafer's* new Voyage and Description of the Isthmus of America, price 2s. printed in 1704, now added to Dampier's Voyage, Vol. III. p. 360.

“ When a woman is delivered of a child, another woman takes it in her arms within half an hour or less after it is born, and takes the lying in woman upon her back, and goes with both of them into the river and washes them there.”

Wafer, p. 360.

“ The



obstinate constipation of the bowels, attended with extreme pain, considerable fever, and immediate danger, Dr. Stevenson informs us that a cure was obtained

“ The Brazilian women are extremely fruitful, have very easy labours, and rarely miscarry, for no sooner is a women delivered, but up she gets to the next river, and without any further help washes herself there.”

Newhoff's Voyages, p. 151.

“ The Tapoyar women cut the navel string with a shell, and wash themselves and their children every morning and evening after delivery.”

Ib. p. 154.

The Brazilian women are very fruitful, have easy labours, retire to the woods, where they bring forth alone, and return after washing themselves and their child ; the husbands lying in bed the first twenty four hours, and being treated as if they had endured the pains. Confirmed by Woods Rogers, p. 57.

“ The Californians had adopted that absurdity, which is so much laughed at in the accounts of Brazil, that the women after delivery, used immediately to go to some water and wash themselves and the child ; and in other particulars to observe no manner of caution, going to the forest for wood and food, and performing every other service the husband wanted.”

*Nat. and civil Hist. of California, translated from the original Spanish of Miguel Venegas, a Mexican Jesuit ; published in 1758, translated 1759. p. 81 and 82. N. B. The northern point of California is in lat. 46.*

—— Long, Esq; one of the judges of the admiralty, in his History of Jamaica, published in 1774, Vol. II. Book III. Chap. 1. p. 380, speaking of the negroes on that part of the African continent called Guinea, or Negro Land, says, “ Their women are delivered with little or no labour ; they have therefore no more occasion for midwives than the female Oranoutang, or any other wild animal. A woman brings forth her child in a quarter of an hour, and goes the same day to the sea and washes herself. Some have been known to bring forth twins without a shriek or a scream, and it is seldom they are confined above two, or at most three days. Immediately before

obtained chiefly by dashing cold water upon the lower extremities up as high as the pubes, and plunging the feet into cold water, after the warm-bath had failed. *Edin. Med. Eff.* vol. VI. 393. What analogy this case may have to the puerperal fever, I leave my readers to judge.

Since the publication of the former edition of my treatise, I have received a letter from that excellent professor of midwifery, Dr. Young of Edinburgh, containing an account, well worthy the attention of the faculty, of the appearance of the puerperal fever in the lying in ward of the infirmary of that city. The letter is dated November 21, 1774, and the following is an extract from it :

“ We had the puerperal fever in the infirmary  
“ last winter. It began about the end of Febru-  
“ ary, when almost every woman, as soon as she  
“ was delivered, or perhaps about twenty four  
“ hours after, was seized with it ; and all of them  
“ died, though every method was tried to cure the  
“ disorder.

Before her labour she is conducted to the sea side, or a river, followed by a number of little children, who throw all manner of ordure or excrement at her in the way, after which she is washed with great care. Without this cleanly ceremony, the negroes are persuaded that either the mother, the child, or one of the parents, will die during the period of lying in.”

“ disorder. What was singular, the women were  
“ in good health before they were brought to bed,  
“ though some of them had been long in the hos-  
“ pital before delivery. One woman had been dis-  
“ missed the ward before she was brought to bed ;  
“ came into it some days after with her labour  
“ upon her ; was easily delivered, and remained  
“ perfectly well for twenty four hours, when she  
“ was seized with a shivering and the other symp-  
“ toms of the fever. I caused her to be removed to  
“ another ward ; yet, notwithstanding all the care  
“ that was taken of her, she died in the same man-  
“ ner as the others. I must inform you at the  
“ same time, that the disease did not exist in the  
“ town. To account for this distemper in the ly-  
“ ing in ward, I must acquaint you that it has  
“ been a general observation, that the patients in  
“ the infirmary who had undergone any consider-  
“ able operations, were more subject to erysipelat-  
“ ous swellings than formerly. I found that the  
“ women in the lying in ward last year did not  
“ recover so well as formerly, but scarcely any of  
“ them died. It was these appearances which  
“ made me think there was a local infection, and  
“ determined me to shut up the ward till it could  
“ be removed. This I did, after losing six wom-  
“ en. I then washed and painted the ward, caused  
“ all the bedding to be removed, and fired gunpow-  
“ der at different times in the ward, I had a number  
“ of

“ of chaffers filled with cinders, which burnt all  
“ night ; and all the windows were opened through  
“ the day. This operation lasted about a fort-  
“ night, when I furnished the ward with new bed-  
“ ding, put no curtains to the beds, and by this  
“ put an entire stop to the disease. The ward was  
“ open to receive patients in a fortnight from the  
“ time it was first shut up. The bodies of all the  
“ women were opened, and we found exactly the  
“ same appearances as are mentioned by those who  
“ have wrote upon that disorder. Though the  
“ omentum was often found suppurated, yet in  
“ none of them was there any appearance of a  
“ gangrene.”

Several facts of importance in the history of the puerperal fever are contained in this account ; particularly—that none of the women were seized with it before delivery, though some of them had been long in the house—that although the disease was so fatal in the infirmary, it did not exist in the town—and that an entire stop was put to it by thoroughly cleansing and new furnishing the ward, so that in a fortnight after it was opened again with safety for the reception of patients.

Possibly it may be urged as an argument against absorption, that “ almost every woman as soon as  
“ she was delivered, or perhaps about twenty four  
“ hours

“ hours after, was seized with this fever.” But I believe this objection will not be found of any force, if we consider that it will not be an easy matter to determine whether the heat, shiverings, or accelerated pulse, which happen in some hours after delivery, are the symptoms of a puerperal fever, or merely the effects of the labour; especially in an irritable habit of body, as these are symptoms which are frequently seen soon after delivery when no fever has supervened; and an absorption may take place in a very few hours.



Mr. Eli Cope, an ingenious surgeon of Leek in Staffordshire, who formerly lived in my house a considerable time as a pupil, and whose veracity may be depended on, has favoured me with a remarkable confirmation, from his own practice, of the safety and advantage of the method of treatment which I have inculcated. From an exact account of every woman he has delivered since he left me, amounting to 593, with the circumstances of their cases, he assures me that he has not lost one from the puerperal fever, nor from any other cause where he alone was concerned. Many preternatural, laborious, and flooding cases had occurred among this number; yet they were all managed according to the plan above recommended; and particularly not a single patient had lain in bed twen-



ty four hours together after delivery. One instance that he relates of the good effects of suffering their shoulders to make their proper turns, in preventing afterpains, is so remarkable that I shall give it at length in his own words.

“ A Farmer’s wife in our neighbourhood applied to me in February 1773, desiring me to attend her in her labour, which she expected in a few weeks. She told me she had had six children, and had very easy labours ; but that she had suffered so much with afterpains for a fortnight, that it rendered her unable to leave her room at the end of six weeks. I attended her in a natural good labour. As soon as the head of the child was born, I observed the shoulders to make their turn, having my left hand under the child’s chin, and the right hand on the occiput. In this position I was determined to wait till a pain came, which was seventeen minutes : This forced the child as far as the hips. The next pain, which was in about two minutes, totally expelled the child.

“ I have since attended her, and only waited fourteen minutes after the head was born. She never after had a single afterpain, but was about her business in three weeks.”

My worthy friend Dr. Aikin, whose character and abilities are well known to the public, and others of my pupils, as well as many other practitioners, have also favoured me with their testimony to the success of the several points of practice recommended in the foregoing treatise.

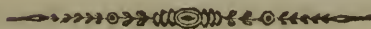


ADDITIONAL



## A D D I T I O N A L

## C A S E S.



## C A S E XVI.

**JONATHAN KERSHAW's** wife of Haven near Greenacre Moor, in the parish of Oldham, about thirty years of age, being at the full period of gestation, had the misfortune on the second of July 1770, to fall upon a pot vessel, which broke, cut through her clothes, and made an horizontal wound in the abdomen, about a quarter of an inch above the navel, and about two inches in length. Labour pains immediately succeeded, and she was delivered in about thirteen hours of a living child. I saw her in about fifty hours after the accident, and found that a piece of the omentum, as large as my fist, had protruded itself through the wound, and lay upon the outside of the abdomen; it had a  
very

very putrid appearance, discharged a bloody serum, and smelt very offensively. The omentum was wounded, and a triangular piece of pot was found within it. I spread it open carefully, to examine whether any portion of the intestines was protruded along with it, and being satisfied that there was not, I applied a ligature round it close to the abdomen, and then cut off all that part beyond the ligature. In about a fortnight the ligature came away, and in less than a month the wound was perfectly healed without the least inconvenience, and she has since had another living child.

## R E M A R K.

This case, as far as one instance will go, proves that the omentum in puerperal women is not particularly liable to inflammation, suppuration, and mortification ; but in those cases where there has been that appearance upon dissection, it has been owing to acrid matter being absorbed and deposited upon it, and not to any original disease in the part produced by pregnancy or parturition.

## C A S E XVII.

IN the postscript to my account of the puerperal fever, I think I have sufficiently refuted  
the

the doctrine of those physicians who have imagined that the disorder is equally common in all places. The following case will, I believe, be a sufficient answer to those who have maintained the opposite opinion, alleging that it is only generated in the metropolis, and never exists in other parts of the kingdom. We shall here see it, in a very malignant state, make its appearance in the town of Manchester.

A. B. of Manchester, a remarkably healthy woman, who had hitherto scarcely experienced any disorder, was in the beginning of her first pregnancy afflicted with pains in her stomach, attended with vomitings ; but during the last four months she was perfectly well, at least as free from complaints as one can be supposed to be in her situation.

On the 27th of October, 1772, she was delivered of two children by a careful surgeon in this town, who conducted the labour with great propriety. Her labour which continued about fifteen hours, was rather slow than difficult. The first born child presented itself in a natural position ; the second with the buttocks foremost ; but, as the infant was very small, it was easily brought into the world in that posture. The placenta was expelled naturally. For a day or two, the patient imagined  
T
she



she perceived a large lump which seemed to roll about within her belly, and which she sometimes endeavoured to fix by holding her hand upon it. This, however, gave her no pain; and after the second day, this symptom, which arose from the womb's not having sufficiently contracted itself, entirely vanished. The lochia flowed plentifully, her milk was secreted in proper quantity, and she gave suck to her children.

On the third day, she complained of a little pain in her belly; and as she had not had a stool since her delivery, a clyster and some opening medicines were administered, which procured a plentiful evacuation; and in the evening she took an opiate.

On the fourth day she was pretty easy.

On the fifth she complained of pain and soreness in the lower part of the abdomen, which grew so troublesome, that it was thought necessary to repeat the opiate; and some small doses of emetic tartar were administered, which puked her, procured a few stools, and brought on a gentle perspiration. Her lochia and milk began to diminish, she got out of bed for the first time in the evening, but was so sick that she could not bear up, and was immediately put into bed again. Her pulse was very quick, and her disorder seemed to be increasing.

In

In the morning and evening of the sixth, she took a little rhubarb and nitre.

On the ninth day I was desired to visit her by the gentleman who had delivered her. I was informed that she had seldom sat up in bed, and only once been out of it. The house was situated in the most crowded part of the town. The room she lay in was about six yards in length and five in breadth ; but it was very low, its height not exceeding six feet and a half. It was not however remarkably hot, though a fire, at which the victuals of the family were dressed, was kept constantly in it : The fire was at a considerable distance from the bed. The nurse and both the children lay in the same bed with the patient, and her husband lay in another in the same room. The surgeon who was employed, very prudently ordered the door, and sometimes a window, to be opened in the daytime ; but his directions were not complied with, and when he had himself opened them, they were immediately shut upon his leaving the chamber. She had every day wine, though in no great quantity, put into her gruel, and no acids were given her. She complained of frequent motions to make water ; of pain, soreness, tension, and swelling in the lower part of the abdomen. Upon examining the parts with the greatest attention, I found that her

complaints were confined to the region of the uterus and bladder ; and that the swelling was perfectly circumscribed ; and that neither the pain, the swelling, nor the soreness, extended beyond the half way from the pubis to the navel ; nor was there at that time any reason to apprehend, either from the nature of the symptoms, or the touch, that there was any inflammation, or other disorder, either in the stomach, omentum, or intestines, if we except a gentle soreness with which it was affected.

The gentleman who was employed for her, introduced a catheter into her bladder, that he might discover whether it was distended with water ; but it did not contain above three or four spoonfuls. Upon pressing the catheter against the fundus of the bladder, she complained that *there* was the seat of her disorder. She was thirsty, but her tongue was very little altered from its natural state ; it having neither a white nor a brown fur upon it. She had very little milk, and her lochia were reduced to a small sanious discharge. She had neither rigours, vomitings, nor eruptions. The heat of her skin, and the excessive quickness of her pulse, which beat no less than 160 times in a minute, were her only alarming symptoms. I several times examined her pulse by a stop watch, when she was neither fluttered nor in great pain, and constantly found them the same. From this single circumstance, upon my first visit I prognosticat-

ed that she could not recover. Small doses of emetic tartar, which gently puked her, were administered several times today. Buttermilk possetts and buttermilk were ordered for her common drink, and in the evening she got out of bed.

On the 10th, her pulse beat only 128 times in a minute, her belly was rather softer, she had several stools, and seemed no worse in any respect. On the 11th, the lower part of the belly about the uterus was softer, but the whole abdomen began to swell. Her pulse beat 160 times in a minute. She had many stools ; and salt of wormwood, with the juice of lemons, was frequently given in the act of fermentation. Upon the 12th, the whole abdomen was much distended, and the pain, which now extended itself to her sides, was so violent, that her cries alarmed the neighbours. That we might procure her a little ease, we were obliged to apply an anodyne fomentation to her belly, and to give her opiates mixed with ipecacuanha. She had a great many stools, and her tongue had a white fur upon it.

Her looseness stopped, and she had not much pain upon the 13th, but her belly was greatly distended. Her pulse was so quick as hardly to be counted. Her extremities were cold. She retained her senses to the very last moment ; and expired about nine o'clock in the evening.

## DISSECTION.

The surgeon who attended her, opened her body the next day, in the presence of another surgeon, and two young gentlemen of the profession. My being called to a distance prevented my attendance; but he told me that the appearances were exactly correspondent to those which he had observed in London, in subjects who had died of the true malignant puerperal fever.\* The omentum was almost

\* The great variety of the appearance on dissection, and the little certainty as yet obtained from it with regard to the principal seat of the disease, are fully shewn in the following passage :

“ In about forty women whom I have had opportunity of inspecting, all or some of the following appearances have been observed. The uterus or its appendages were in a state of inflammation, and sometimes mortified. The os uteri, and that part of the uterus to which the placenta had adhered, had generally a morbid appearance. Small abscesses were formed in the substance of the uterus, or in the cellular membrane which connects it to the adjacent parts. The bladder was inflamed. The omentum was very thin, irregularly spread, and in a state of inflammation. The intestines were inflamed, chiefly in the peritonæal coat, adhered in many places, and were much inflated. Inflammatory exudations, and serum extravasated in the cavity of the abdomen, have been found in various quantities; but these were in a less degree when the patient had laboured under a long continued purging. Large flakes of coagulable lymph were found in the cavity of the abdomen, which have been often mistaken for dissolved portions of omentum. It must indeed be acknowledged, that the information, acquired in this search, has not been equal to the care or to the assiduity with which it has been made.”

Denman on the Puerperal Fever.

Second Edit. p. 29 and 30.



most wholly dissolved : detached pieces floated in the abdomen, which contained almost three pints of thick purulent matter, and of ferous fluid. The stomach and intestines were much inflated, and the intestines were glued to each other, and to the peritonæum ; but in such a manner that they might be pulled asunder without tearing their coats. They appeared to be pasted together by a kind of gluten ; and inflammation seemed not to have been in the least the cause of their adhesion. Some of the smaller vessels seemed to be a little turgid with blood. He did not any where observe the appearances of inflammation or mortification. The left ovary was rather larger than the other, but perfectly sound. The womb, which was not contracted to its usual size, was capable of receiving an hen's egg ; and upon cutting it open its sides were found to be three quarters of an inch in thickness. The inward coat appeared to be entirely black, as if in a state of mortification ; but upon wiping it clean, the blackness was found to be nothing more than the putrid lochia and deciduous membrane, which had covered the whole inside of the uterus. There was not the least appearance of laceration, or of any other external injury.

## REMARKS.

The situation of the patient's apartment, which was in the closest part of the town ; the remarkable lowness of the room ; the vitiated state of the air from the breath of so many persons ; the horizontal position of the patient for many days together ; her complaint, at first, confined to the lower part of the abdomen, and afterwards gradually rising higher ; the quickness of her pulse in the beginning of the disease, and its beating four days before death 160 times in a minute ; are circumstances which merit the utmost attention. So quick a pulse is seldom produced by inflammation, when unattended with depositions or absorptions of matter, though accompanied with the most violent pain. The most inflammatory gout, when productive of the most excruciating torture ; the most violent paroxysms of the stone either in the kidneys or the bladder, or in the passage from one of them to the other ; the excessive and almost intolerable torture arising from a gall stone passing through the ducts ; the pain and inflammation in the pleurisy, the iliac passion, or the cholera morbus ; \* nay even those arising from the strangulation

tion

\* The first attack of this fever is sometimes so violent, that in many respects it resembles the *cholera morbus* ; for the pain, sickness, and burning heat in the stomach and bowels, are almost the same ; and the bile, in great profusion,

tion of the intestines, or omentum, or from any of the principal operations in surgery, as lithotomy, amputation, &c. except where a mortification is come on and the patient is in the agonies of death, do not occasion so rapid a pulsation. A pulse so excessively quick is seldom produced by pain, though accompanied by inflammation. A quick pulse is however the pathognomonic symptom of all absorptions, whether they be produced by ulcers in the lungs, in the joints, or in any other part of the body; though unattended by pain or inflammation. I have known an excessive acceleration of the pulse proceed from a small wound in the joint of the knee, attended with absorption, where the patient was perfectly well immediately before the accident.

## C A S E XVIII.

BEING called to Ashtonunderline, a town in this neighbourhood, to see a patient, as I was talking with Mr. Greaves, an ingenious young surgeon of that place, a corpse with a white sheet thrown over the coffin was carrying through the streets to be buried. Concluding from this circumstance, that it was a woman who had died in childbed,

I

profusion, is discharged upwards and downwards; though in the first, the pulse is more quick and weak.

I inquired into the nature of her disorder. He informed me she died of a puerperal fever. Her name was Ann Leek, a poor woman, about 35 years of age. The particulars were as follow : He was called to her in the middle of the eighth month of her third pregnancy, for a flooding, which was so violent that the blood ran through not only the bed, but even the floor into the room below ; but by taking plentifully of the bark, she recovered and went to her full time, when she was delivered by a midwife on the 16th of November, 1772, and had a very easy natural labour.

He heard no more of her till the 23d, when he found her with a very quick pulse, brown dry tongue, and delirious. She had a great number of petechie ; and her stools, which came from her involuntarily, were very offensive. Her friends informed him that she was seized a few days after her delivery with a shivering fit, succeeded by vomiting and looseness, and complained much of her belly. She died upon the 24th, being the ninth day from her delivery.

Upon inquiring into the most probable causes of her death, Mr. Greaves informed me that the room she lay in was intolerably offensive, owing to a vessel containing about four gallons, kept there as a reservoir for all the urine of the family, which

was emptied once a week for the use of the dyers, but was never cleaned.

## C A S E     X I X.

ABOUT five years ago, Mrs. W—, who was then twenty one years of age, was delivered of her first child, as she sat upon the knee of an assistant. She was confined to her bed till the fifth day after her delivery, and during this time scarcely ever sat up. On the fifth and sixth days she was raised, that her bed might be made, but was not able to continue up longer than was necessary for that purpose ; and she was afterwards again confined to her bed eight successive days without getting out of it. During this time she was attacked by a violent fever, attended with miliary eruptions, both of the white and red kind. Of this fever she perfectly recovered ; but upon returning to her usual exercise, she was seized with a *prolapsus vaginæ*, which, except in the latter end of her pregnancies, hath ever since continued.

On the seventh of January 1773, she was delivered, by a gentleman of this town, of her third child, as she sat upon the knee of an assistant. He informed me that, as soon as the child was born, he pulled gently at the navel string; and that a smart  
pain



pain came on, which totally inverted the uterus, forcing it down, to the size of his hand, through the labia, with the placenta still adhering to its fundus. The nature of her case immediately struck him; but to be more perfectly satisfied, after making an apology for so uncommon a request, he called for a candle, and found he was not mistaken in his conjecture. He carefully separated the placenta from the uterus with his fingers, and attempted, but in vain, to restore the womb to its pristine state. He was only able to push it up into the vagina. In this situation she was put to bed, and he came to me to desire I would visit her along with him. In about an hour after this I saw her, and found the uterus about the size of a large new born infant's head, totally inverted, and lying within the vagina. She was in great pain, had lost much blood, was very faint, and no pulse could be felt in either arm. I attempted to return the uterus to its place by pushing at its fundus; but as this was attended with great pain, brought on a violent forcing down, and was accompanied with much loss of blood, I for a while desisted, from an apprehension that she might die under my hands. I now prescribed her an opiate, with a few drops of vitriolic elixir.

Upon farther consideration of her case, I was of opinion that the body of the uterus was too large

to pass through its neck, which was a little contracted ; therefore in a few minutes after she had taken the opiate and vitriolic drops, without waiting for their effects, I hastened to reduce it by the following mode of practice, which I believe to be entirely new, and which had never before occurred to me. I grasped the body of it in my hand, and held it there for some time, in order to lessen its bulk by compression. As I very soon perceived that it began to diminish, I persevered ; and soon after made another attempt to reduce it, by thrusting at its fundus. It began to give way. I continued the force till I had perfectly returned it, and had insinuated my hand into its body. I now withdrew my hand a little and endeavoured to close the os uteri by assisting it in its contraction with my fingers. It was no sooner reduced, than the pulse in her wrist began to beat. She recovered as fast as we could wish, and without a single alarming circumstance.

## R E M A R K S.

Had not the idea occurred to me of its being practicable to diminish the uterus by compression, I am satisfied I should not have been able to have replaced it ; and though my first attempt to reduce it without compression distressed my patient greatly,

greatly, yet the method I afterwards pursued, seemed to be attended with little pain.

Several circumstances might probably contribute to this accident ; the *prolapsus vaginæ*, with which the patient had been sometime troubled—the position she was in at the time of delivery—the sudden delivery of the child—the adhesion of the placenta exactly to the bottom of the uterus—the insertion of the funis in the very center of the placenta, and the pulling at the navel string too soon after the birth, before the uterus had sufficiently contracted itself, and whilst the woman was nearly in an upright situation.

Cases of inverted uteri are not very frequent ; and the recoveries of patients who had met with such accidents have been extremely uncommon. The reason they so seldom occur, may probably with justice be attributed to the necessity of so many concurring circumstances. The proper means of returning the inverted uterus not being before discovered, and the want of speedy assistance may be the reasons why so few have recovered. I know but of two written instances of recovery after a total inversion ; one is mentioned by Ruysch, Obs. 10, where the wife of a certain Jew was the patient, the other by Dr. Harvie in his *Practical Directions*, p. 21. Le Motte, indeed, l. 5. c. 10. Obs.

384. mentions another case in which the patient recovered, but in this he does not seem to think that there was a total inversion.

My father informed me that he was many years ago sent for to a woman in this situation, about ten miles from hence ; but she died before his arrival. She had been delivered as she sat upon the knee of an assistant, and the midwife had by pulling at the navel string too soon after the delivery, totally inverted the uterus. About eight years ago I was sent for myself, and in a case exactly similar. The woman lived about a mile from hence, and as I was then from home, Dr. Aikin, at that time my pupil, went in my stead. The patient died as he entered the chamber. He found the inverted uterus beyond the labia, and the placenta still adhering.

Those who would wish to see more histories of these truly alarming cases, may consult Ruyfch, *Obs.* 10 and 26 ; Mauriceau, *Obs.* 355 and 685 ; Giffard's Cases in *Midwifery*, case 176, p. 421 ; Chapman, case 29, p. 197 ; La Motte, *Lib.* 5, chap. 10, *Obs.* 384 ; Smellie's Works, vol. 3, Collection 44, cases 3 and 4, p. 494 and 495 ; and Dr. Hunter's MSS. Lectures on the Gravid Uterus.

This case likewise helps to prove that prolapsuses of the vagina, or bearings down, as they are commonly

monly called, are not occasioned by too early getting out of bed after delivery ; as this woman in her first lying in never got out of bed till the fifth day, and scarcely ever sat up in it during that time ; nay she was totally confined to her bed fourteen days, except on the fifth and sixth days that she was raised, whilst her bed was made ; and yet when she returned to her usual exercises, she perceived the *prolapsus vaginae*. It must therefore have been owing to some other cause, probably to the upright position during labour, and the too hasty delivery of the shoulders.

## C A S E XX.

HANNAH NORBURY of Blakely, a small village, about three miles from Manchester, aged 27, was delivered of her first child, by a midwife in the neighbourhood, on the 4th of March, 1773, as she sat upon the knee of an assistant. She had an easy natural labour, and the placenta came away without difficulty. She was of a corpulent habit, but she had enjoyed pretty good health except a trifling cough which she had been troubled with for about eighteen months, and at the latter end of her pregnancy she had been for the most part costive. During her labour she complained of the headach, which continued afterwards. She was kept in a continual sweat, and  
never



never once sat up in bed till the third day in the afternoon, when she got out of it for a little while; the child was applied to her breasts this day for the first time, the lochia were almost stopped, and she had a shivering fit in the evening succeeded by a burning and a sweating fit. On the fourth day her breasts were a little troublesome, but by rubbing with a little oil they grew easy. On the 5th, had another shivering fit. On the 6th, had a stool which was the first she had had since the day before her delivery. On the 8th she was seized with a bilious vomiting, and a looseness; her urine was high coloured and muddy, and she coughed much in the night. She had a delirium, but her husband observed that it was only at such times when she lay upon her back, but that when she lay upon her side she was quite free from it.

On the 9th she remained much in the same state. In the evening I was applied to, and ordered her tartar emetic and calx of antimony, which puked her, and eased her stomach and bowels.

On the 10th I saw her for the first time. Her pulse were small, and beat 176 strokes in a minute; her voice faltered; she was sometimes delirious, her eyes were red and looked wild, and she said her head ached. She did not make any complaint of her belly; but when I laid my hand up-

on it below the navel, in any part of the hypogastric region, it was so exceedingly tender that she could scarce bear me to touch it, but about the navel, and above it, she made not the least complaint though I pressed ever so hard. Her bed was placed within half a yard of the fire ; and her friends informed me that she had sweated much since her delivery, that her only food had been meal or groat gruel, given warm with a little wine in it, and once it was mixed with a small quantity of malt liquor. I ordered her the salt of wormwood and juice of lemons in the act of effervescence, and gave her leave to drink butter milk posset, which she had before asked for, but it had been denied. The lochia were stopped except a little brown water. She had not much milk, but the child continued to suck her. On the 11th I saw her again : Her pulse was so small and quick as not to be counted ; she had convulsive spasms, and was not able to speak or take any medicines. She had one stool this day, and no vomiting.

On the 12th, stools and urine came from her involuntarily, and she died in the evening.

#### R E M A R K S.

I must observe that the room in which this woman lay had no door to it, nor were there any curtains

tains to the bed ; therefore I believed there could not be much putrid air except what was confined under the bed clothes. The mismanagement chiefly consisted in keeping her in an horizontal position, for three days successively, without once sitting up in bed—in permitting her to be seven days without a stool—in her being too much heated by the fire, too many bed clothes, and drinking warm liquids with wine in them ; in sweating too much, and not being allowed any cool acedcent liquors.

## D I S S E C T I O N.

Upon opening the abdomen about fourteen hours after death, there was not the least disagreeable smell ; the omentum was large, perfectly found, spread regularly over the intestines, and of a natural colour, except a little of the lower edge which was not so bright a yellow. The intestines shewed not the least sign of inflammation, and were perfectly found : They were not glued to one another, nor was there any matter or watery fluid floating in the cavity of the abdomen. The uterus was something larger than my fist, of a natural colour, but flaccid ; upon cutting it open, the inside appeared black ; but I easily wiped off the blackness, which seemed to be nothing more than some remains of the spongy chorion and some par-

ticles of blood. Her friends being very averſe to any farther examination, I was obliged to deſiſt.

### C A S E XXI.

ANN WORTHINGTON, aged twenty fix, was delivered of her firſt child, by a gentleman of pretty conſiderable practice, on Friday the 16th of June 1775, about noon. He informed me that in attempting to bring away the placenta, the navel ſtring broke : He afterwards tried to extract it by the manual operation, but found the uterus ſo contracted in the middle, like an hour glaſs, that he thought it moſt prudent to deſiſt for the preſent, and gave her an opiate. He deſired I might be called in, and I ſaw her about five hours after her delivery. I found ſhe had flooded much ; her pulſe was ſmall, and ſhe was very pale with the loſs of blood ; but the flooding had now much abated, and ſhe ſeemed tolerably eaſy. I therefore did not examine her, nor order her any thing, but to continue to take an acid julep, which had been preſcribed her ; to drink cooling ſubacid liquors ; to keep the doors and windows open, as the weather was exceſſively hot ; and to ſit up in bed as often as poſſible, if ſhe did not flood. The next morning ſhe got out of bed, which was made, and her linen changed, and a clyſter was injected.

In about 30 hours after delivery, as there was no sign of the placenta coming away, and the weather was remarkably hot, I was afraid of its growing putrid, and producing a putrid fever ; I therefore examined her for the first time, in order to assist in bringing it away ; but found that the contraction still remained, and the placenta was quite out of my reach without using violence. The lochia were in proper quantities, and not offensive.

On the second night she had a severe shivering fit, succeeded by a hot one, and terminated by a sweat. In the morning she took a vomit of ipecacuanha in powder, and got up out of bed.

On the third day had another rigour, got out of bed again in the evening, and staid up an hour. Being costive, and complaining much of her head, and her belly being swelled and tender, with her pulse 120, an aperient mixture was prescribed, but that not operating, she took two grains of calomel, and a quarter of a grain of tart. emet. which gave her several stools, and she omitted the mixture.

The next day being the fourth, when the lochia grew very offensive, warm water\* was injected per vaginam ;

\* In the puerperal fever whenever the lochia are offensive, warm water should be frequently injected into the uterus by means of a syringe which has a thick syphon and a little curved ; and I am inclined to think that such injections would be very serviceable in all puerperal fevers, if properly performed.



vaginam ; she took antimonial powders, got out of bed twice a day, staid up at least an hour every time, and often sat up in bed.

On the fifth day had another rigour : Took salt of wormwood and juice of lemons in the act of effervescence every three hours ; took every day great quantities of buttermilk, oranges and lemons, and the doors and windows were kept constantly open.

On the sixth day she got out of bed three times, staying up an hour and half each time ; continued the neutral mixture, and the antimonial powders, which kept the intestinal canal sufficiently open, having several loose stools every day.

On the seventh night a few pains came on, and she parted with the placenta, which was very putrid, except one part, which seemed not to have been long separated from the uterus.

On the eighth day she was much better. On the tenth a diarrhea came on, which on the eleventh was very severe ; she therefore took a grain of ipecacuanha ; and a few grains of rhubarb, which puked her, and her looseness abated.

On

On the twelfth a flight preparation of the bark was ordered ; and on the thirteenth\* she said she had no complaints, except too much milk in her breasts ; she kept out of bed most of the day. From that time she perfectly recovered.

## C A S E    XXII.

MRS. —, aged 25, remarkable for good health and spirits, and an amiable disposition, being arrived at the fullest period of gestation of her fourth child, was seized with labour pains on Saturday morning the 6th of November, 1784, and in two hours after was delivered by a careful and experienced midwife of a fine lusty boy. During her labour, she staid up till a short time before her delivery, when she was put to bed. The midwife was only an hour and a half in the room with her, and nothing happened during that time worth relating, except the patient saying to the midwife, *I am not as I am used to be ;* to which the midwife answered, *Indeed, madam, you are, and are doing extremely well ;* she replied, *I am too old a practitioner to be deceived, and I tell you, I am not doing as I used to do.*

On

\* In all the cases which I have mentioned, the number of days from delivery, it must be understood that the day of delivery is included. I thought it necessary to take notice of this circumstance, as I find some Authors observe a contrary method.

On the third day after delivery, she got up whilst the bed was made, and that day ate a little chicken.

On the fourth day she sat up half an hour. This day her milk was a little troublesome, attended with a slight degree of feverishness, and her breasts were gently rubbed with brandy and pommade. Her milk gradually left her. Her belly was regularly kept open with castor oil, and the lochial discharge was proper both in quantity and quality. She had a constant fire in her room, but I could not learn that it was kept hot, the door being frequently open.

On Friday evening the seventh from delivery, betwixt nine and ten o'clock, as she was undressing, she remarked to her woman that she never was stronger or better for the time, than she was at that instant. But about ten o'clock, as she was getting into bed, she complained of giddiness in her head, and in a few minutes after, was seized with unusual tightness in the chest, an extreme difficulty of breathing, with pains in the breast, stomach, belly, and small of the back, and with a coldness of the extremities, attended with great restlessness. The small of the back was so painful that it was obliged to be held by a servant.

At first her attendants were not much alarmed, and regarding it as a common fainting fit, gave her wine and water, and spirit of hartshorn, and lavender drops ; but finding her grow rather worse than better, they sent to a neighbouring town for a surgeon, and afterwards for a physician, two very ingenious men. When they arrived her pulse was extremely quick and languid, but regular ; and she had an evident sinking of features. Every thing in the power of art was administered by them, but all in vain, as she might be said to be in *articulo mortis* when they arrived, and indeed from her first seizure. She expired about four o'clock on Saturday morning, continuing sensible to the last.

I was likewise sent for, but being at a considerable distance did not reach the house, being stopped by a messenger within a few miles of it, to inform me of the melancholy event. I never saw her during her confinement, but from some particulars of her case, which I received from the surgeon, who attended her during her last moments, I thought there might possibly have been a rupture of some large blood vessel in the thorax ; but as the cause of her death was by no means clear, and the case appeared a very uncommon one, I sent over to request leave to open the body, which was obtained.

When

When I arrived there on Monday morning, two days after her death, I was convinced, on the first appearance of the body, that this could not be owing to any blood vessel having burst in the thorax, as the abdomen was distended almost as much as the skin would bear without bursting ; the body in the most putrid state I ever knew one at that season of the year, so soon after death ; and a general lividness had infused itself from the lower part of the belly, to the whole of the body.

## THE D I S S E C T I O N

Was performed in the presence of the physician and surgeon who attended the lady. As soon as I cut through the peritoneum, a large quantity of putrid air rushed out of the abdomen, which considerably lessened its bulk ; but it still remained very large, owing to a quantity of air being generated within the stomach and intestines. When the whole cavity of the abdomen was laid open, we observed, on examining its contents, that those parts of the *intestines* which lay in contact with the uterus, were in a gangrenous state, and of a very livid colour. The *uterus* was of the size of two fists, flabby, loose, and the whole in a state of gangrene. But the neck and the right side of the body were  
in



in the most advanced stage, all its coats in those places being completely mortified.

The inside of the uterus was covered with the lochia, and seemed at least not in a worse state than the external parts of it. The *ovaria fimbriæ*, and *fallopian tubes* were in the last stage of a sphacelous, being perfectly black, and exceedingly putrid. There was nothing remarkable in the *omentum*, *bladder*, or any other of the viscera, except a general lividity, and a tendency to putrefaction.

There were *no abscesses*; the *intestines* had formed no adhesions; nor were there any inflammatory exudations, extravasated serum, or flakes of coagulable lymph, as described by all English writers on the puerperal fever; or as the French express it, any of that extravasated fluid of the nature of milk, resembling unclarified whey, containing flakes of curd like matter, many of which adhere to the surface of the intestines.

Upon opening the *thorax*, there was no putrid air, nor any extravasated blood; the *pericardium* contained a sufficient quantity of water; the *auricles* and *ventricles* of the heart, and the *septum* between the two ventricles, were perfectly sound; as were also the *lungs*.

## REMARKS.

There are several circumstances attending this case, that seem surprizing and require some investigation. I do not lay much stress upon what the lady said to the midwife, during her labour ; such expressions are common, and no more is thought of them if the patient does well. Her death was evidently occasioned by a mortification of the uterus, and it seems extraordinary that she made no complaints till within six hours before her decease.

Perhaps it may be said that if any medical person had attended her, he might possibly have discovered something either in her pulse or tongue, or in some other symptom, from which to have prognosticated her danger ; but I think this is not probable, as she ate, drank, and slept well, and her evacuations and discharges were natural.

May we not account for the symptoms in the following manner ? There are many different species of mortifications ; some are preceded by inflammation and irritation, and are accompanied with pain and fever\* from the first attack ; others are

\* “ I shall conclude with one remark, which, though it has been made before, yet has not been so generally received as to render any farther testimony unnecessary. The *ileus* is, for the most part, attended with a sensible

are not ; some are dry, some moist ; some are offensive from the first, others not ; some are very quick in their progress, others very slow. It is evident that the mortification in this lady was not preceded or attended with any inflammation or irritation, since she never complained of any pain till within six hours of her death.

The uterus is an organ which is not absolutely necessary to life, since many animals\* have been known

“ sible degree of fever, and with all the other symptoms recited above ;  
 “ but besides that, there are cases in which there is no vomiting, as shewn  
 “ from the ancients ; there are others in which the fever is scarcely perceptible, when the patient feels little pain, and is not altogether costive. I  
 “ say, there are such cases of inflammation ; because when with symptoms so  
 “ little alarming, the patient has died, the bowels have been found not less  
 “ mortified than after the most distinguishing marks of the disease.

“ This, so far as I know, was first taken notice of by Dr. *Simson* ||, whose  
 “ observation is quoted and confirmed by the *Baron Van Swieten* †, and lately  
 “ by *Morgagni* ‡, who observes that in such circumstances, the only pre-  
 “ sages of danger are to be taken from the tension of the belly, and a dull  
 “ pain upon pressing it, from the lowless and inequality of the pulse, and  
 “ from a change of the countenance. What he says upon this subject well  
 “ deserves attention.”

Pringle's Observations on Diseases  
 of the Army, 4to. p. 154.

|| *Simson* on the System of the Womb, p. 106, 107.

+ Comment. on Boerh. Aphor. § 371.

‡ De Sed. et Caus. Morb. Ep. 35. 22.

\* *Ætius* and *Paulus Ægineta*, say, that they have known even women recover, when the uterus had been extirpated on account of an inversion, and the same is mentioned by *Parse*.

known to live after it has been taken out : Hence the system was no ways affected by it, till the mortification communicated itself to the intestines, when it was as rapid as possible, destroying the patient in six hours.

It may seem remarkable that the lochia were never affected in this disorder ; but let us consider whence they proceed. The lochia are nothing more than a discharge of blood from the vessels which formerly opened into the womb, mixed with the putrid remains of the *membrana decidua*, *caduca*, or spongy chorion, and as there might be neither discharge nor putrid stench from the parts actually mortified, the lochia were not affected.

The uterus\* had not contracted itself so much as might have been expected in a week ; it is therefore most probable that it was affected either at the time or soon after delivery ; nor indeed are we able to trace the origin of this disease to any thing but

\* Dr. Hulme, in his Treatise on the Puerperal Fever, has given an account of the dissection of six women who died of that disease, and has mentioned more particularly than any other author, the degree of contraction of the uterus in them. In the first five, who died on the 7th, 11th, 6th, 18th, and 7th days after delivery, " the uterus was contracted to a small compass, and lay concealed within the cavity of the pelvis." In the sixth case, in which the patient died on the 6th day after delivery, " the uterus was less contracted, and lay flabby and loose in the cavity of the pelvis."

De Graaf says, that the uterus is contracted to its natural size in sixteen days after delivery, Ch. viii. p. 128.

but her labour, which was a speedy one, of a full grown child.

How far the uterus might be injured by the child, in its passage, it may be difficult to say ; but thus far I think we may venture to conclude, that in all sudden labours, we shall be acting on the safest side, if we do every thing in our power to retard, and nothing to accelerate such kind of parturitions.







# I N D E X.



## A.

	Page
<i>A</i> BSORPTION of the Lochia, occasioned by a horizontal posture	20, 270
—— the cause of the Puerperal Fever	30, 249, 268
—— occasioned by a stagnation, not obstruction of the lochia, often occurs when the discharge is great	- - 105
—— and obstruction of the Lochia, their distinction	270
<i>Advantages</i> of sitting up soon after delivery great	92, 102, 153, 246, 274
<i>Air</i> , foul, and confined, very improper for lying in women	19, 81, 90, 102, 146
—— worse among poor people	21
—— pure should be frequently admitted into the chamber	102, 162
—— putrid, how studiously to be avoided,	124, 128, 151
<i>Aikin</i> , Dr. his Thoughts on Hospitals recommended	135
—— Dr. his Testimony of the success of the Author's Mode of Practice	- - - - - 286
<i>Afterpains</i> , remarkable proof of their prevention	285
—— occasioned by premature and improper delivery of the shoulders	- - - - - 77, 85, 256
<i>Alexander</i> , Dr. his Experiments and Corollaries. <i>Note.</i>	140
<i>Appearances</i> on dissection of women who have died of the Puerperal Fever	- - - - - 30, 294, 307
<i>Applications</i> , greasy, their indiscriminate use condemned	83
<i>Asses' Milk</i> serviceable, when	60, 62

## B.

<i>Bark</i> may be given during any period of the Puerperal State	-	Page 105
— when useful	- - - - -	151, 150
<i>Bathing</i> , cold, very beneficial in preventing miscarriages, and to nurses giving suck	- - - - -	60, 253, & seq.
— warm and vapour, improper in the Puerperal Fever	-	158
— unsuccessfully used in the Puerperal Fever	- -	277
— temperate, proposed for Puerperal Women in lying in Hospitals by way of prevention, when the fever appears in a malignant endemic form	- - - - -	278
— used in ancient and modern times, before and after delivery	- - - - -	ibid.
<i>Bed</i> , a plate of one with references	- - - - -	129, & seq.
<i>Bleeding</i> , its use too prevalent	- - - - -	58, 62
— not successful in the Puerperal Fever	- - - - -	245
<i>Blisters</i> , very improper when	- - - - -	158, & seq. 167,
— useful in the last stage of the Puerperal Fever,	- - - - -	160
— their use in the Miliary Fever	- - - - -	172
<i>Breasts</i> , their state in the Puerperal Fever	- - - - -	26
— their structure described	- - - - -	53
— require great attention	- - - - -	110, & seq.
— method of drawing them described	- - - - -	111, & seq.
<i>Broths</i> , their impropriety	- - - - -	94, 103
<i>Butter Milk</i> much drank in Manchester	- - - - -	117

## C.

<i>Calculations</i> of the number of women who have died in childbed in		
London and other towns	- - - - -	239, & seq.
— in different hospitals	- - - - -	235
<i>Camphor</i> , its use improper	- - - - -	167
<i>Chair</i> , a very convenient one described	- - - - -	108
— a Plate of, with references	- - - - -	110
<i>Chamber</i> , lying in, directions for rendering it healthy	- - - - -	102
<i>Chorion</i> or <i>Caduca</i> , Dr. Hunter's account of it	- - - - -	271, & seq.
<i>Chord</i> , umbilical, when to be divided	- - - - -	85
<i>Claghorn</i> , Dr. his account of the appearances on dissection of persons dead of Putrid Fevers	- - - - -	225
<i>Clysters</i> of great utility in preventing Puerperal Fevers	- - - - -	103
— of broth improper	- - - - -	ibid.
— when proper	- - - - -	145

<i>Columbo root</i> , its advantages	-	-	-	Pages 63
——— Dr. Percival's experiments upon. <i>Note</i>	-	-	-	ibid.
——— when to be given	-	-	-	149
<i>Cope</i> , Mr. Extract of a Letter from	-	-	-	285, & seq.
—— his success in following the Author's Mode of Treatment	-	-	-	284
<i>Conclusions</i> drawn in regard to the Secundines	-	-	-	218
<i>Cordials</i> , their use when necessary	-	-	-	172
<i>Costiveness</i> how prejudicial	-	-	-	153
<i>Crisis</i> of the Miliary Fever very uncertain	-	-	-	172
<i>Cullen</i> , Dr. his opinion of the Miliary Fever	-	-	-	49
<i>Cure</i> of the Miliary Fever	-	-	-	161, & seq.
—— of the Puerperal Fever	-	-	-	136, & seq.

## D.

<i>Davenport</i> , Mary, her Case	-	-	-	213, & seq.
<i>De Haen</i> , Dr. his testimony on the Miliary Fever	-	-	-	46
<i>Delivery</i> , temperate bathing used before and after	-	-	-	278
—— of the shoulders, how performed	-	-	-	74
<i>Depositions</i> of matter in the Puerperal Fever	-	-	-	269, & seq.
<i>Diet</i> proper for Puerperal Women	-	-	-	93
<i>Diffusions</i> , not very serviceable in discovering the cause of the Puerperal Fever	-	-	-	262
<i>Doulcet</i> , Mr. his opinion of the Puerperal Fever	-	-	-	33
—— his Mode of treating it	-	-	-	142
<i>Draughts</i> of Salt of Wormwood when proper	-	-	-	145
—— given by Reverius and Sydenham when	-	-	-	147
—— their action described by Lind and others	-	-	-	ibid.
<i>Dress</i> , its management of great consequence	-	-	-	53
—— what proper for Pregnant Women	-	-	-	66
<i>Dysenteries</i> , almost unknown in Manchester	-	-	-	118

## E.

<i>Eggs</i> , raw, their good effects in the jaundice	-	-	-	64
<i>Elastic Vegetable Bottles</i> , their use. <i>Note</i>	-	-	-	111, 160
<i>Emetics</i> , when adviseable	-	-	-	142, & seq.
<i>Emmenagogues</i> , their use hurtful	-	-	-	160, 167
<i>Eruptions</i> , miliary, known to attend most disorders	-	-	-	39
—— in the Puerperal Fever not critical	-	-	-	27
<i>Exercise</i> , when improper for pregnant Women	-	-	-	62
—— when proper	-	-	-	62

## F.

<i>Fermenting</i> antiseptic mixtures very useful when	-	-	Page 134
<i>Flooding</i> , often caused by too hasty delivery	-	-	83
—— its proper treatment	-	-	105 & seq.
<i>Fomentations</i> , warm, improper in the Puerperal Fever	-	-	158
<i>Fetus</i> , the manner in which its shoulders pass through the Pelvis, first discovered by the Author	-	-	74
<i>Fumes</i> , dry or moist, the Author's doubts of their utility during the Patient's stay in the room	-	-	131
<i>Funis</i> , when to be divided	-	-	85

## G.

<i>Getting out of bed</i> , the most effectual method of promoting the Lochia	-	104
<i>Gunpowder</i> , explosions of, very serviceable in expelling foul Air	-	130

## H.

Heat of the body should be as near as possible to the standard of health	-	-	96, 139, 163
—— may be so great as to prevent sweating	-	-	146
<i>Horizontal Posture</i> , in puerperal Women prevents stools and lochia from having free exit	-	-	20
—— recommended in natural labour	-	-	83
—— occasions absorption of the Lochia	-	-	270, 276
<i>Horseback</i> , short rides on, serviceable in preventing miscarriages	-	-	60
<i>Hospitals</i> , Puerperal Fever not easily prevented in	-	-	121
—— description of a Plan of, with some improvements	-	-	123
—— the Author's good opinion of, in general	-	-	244
—— for lying in Women, their different success	-	-	235, & seq.
<i>Hotel Dieu</i> , Mode of curing the Puerperal Fever in it	-	-	142
<i>Hulme</i> , Dr. his Treatise when seen by the Author	-	-	222, & seq.
—— remarks upon the opinion of	-	-	224, & seq.
<i>Hunter</i> , Dr. his MS. Lectures	-	-	249

## I.

<i>Infirmary</i> at Manchester, a description of	-	-	124
<i>Injection</i> into the uterus recommended where the lochia are become putrid	-	-	160
<i>Instruments</i> , their use sometimes needful	-	-	79
<i>Johnson</i> , Dr. his Observations on the Delivery of the head	-	-	72
<i>Ipecacuanha</i> , used with great success in the Puerperal Fever at the Hotel Dieu	-	-	148

<i>Ipecacuanha</i> , Author's claim to the first use of it	-	-	Page 144
—— its good effects in the Miliary Fever	-	-	170
<i>Jumps</i> , their use adviseable during pregnancy	.	-	66

## L.

<i>Labour</i> , the most natural case of supposed	-	-	86, & seq.
<i>Laceration</i> of the Perincum frequent in consequence of hasty delivery			83
<i>Liquors</i> , strong, their impropriety	-	-	93
—— acid, their advantages in the Miliary Fever	-	-	169
<i>Lochia</i> stagnating in the womb, become acrid and absorbed	-	-	21
—— emollient or antiseptic injections into the uterus very beneficial in removing	-	-	160
—— their evacuation alone does not prevent the Puerperal or Miliary Fever	-	-	101
<i>Lochia</i> sometimes much lessened and fetid	-	-	26
—— should not be promoted by forcing medicines	-	-	104
—— best promoted by getting out of bed	-	-	ibid.
—— larger or smaller discharge not always a disease	-	-	105
—— their absorption occasioned by stagnation, not obstruction, but often occurs when the discharge is large	-	-	ibid.
—— when immoderate the proper treatment	-	-	ibid.
—— their absorption and obstruction not properly distinguished			270
<i>Lord, Mary</i> , her Case	-	-	201, & seq.

## M.

<i>Management</i> , proper, of the navel string, first discovered by the Author	-	-	85, & seq. 256
<i>Matter</i> , depositions of, upon the internal parts fatal	-	-	269, & seq.
—— upon the external parts a sign of recovery	-	-	ibid.
<i>Medicines</i> , forcing, when improper	-	-	104
<i>Membrana decidua</i> , what, discovered by Dr. Hunter. Note	-	-	87
—— entirely fitted for absorption	-	-	272 & seq.
<i>Menstruation</i> common to those Quadrupeds only who use an upright posture	-	-	277
<i>Method</i> , common, of tying the Funis very erroneous	-	-	85
<i>Miasmata</i> , putrid, contribute greatly to the spreading of the disorder			21
<i>Midwifery</i> , the art of, greatly improved of late	-	-	70
<i>Miliary Fever</i> , doubtful whether known to the Ancients	-	-	34
—— known by Riverius	-	-	36
—— discovered in England by Sydenham in 1685	-	-	37
—— Authors various in their opinions about the	-	-	ibid.



<i>Miliary Fever</i> , fully described by Allonius	-	-	Page 40
—— its symptoms	-	-	ibid.
—— once very fatal in Manchester	-	-	43
—— once supposed to be endemic at Chester	-	-	45
—— <i>Eruptions</i> never come out without a sweat	-	-	44, 102
—— are fabricated, not critical	-	-	46
—— <i>Fever</i> , Dr. Cullen's account of	-	-	49
—— its cure	-	-	161, & seq.
—— its last stage hazardous	-	-	172
<i>Milk Fever</i> , its causes	-	-	51
—— why more common to Women of rank	-	-	55
—— <i>Asses</i> , serviceable when	-	-	60, 62
<i>Mortification</i> of the Womb	-	-	314
<i>Musk</i> , when useful	-	-	172

## N.

<i>Nature</i> to be observed in her operations	-	-	76
—— when to be assisted in her operations	-	-	85
<i>Navel String</i> , bad consequences attending the tying and cutting it im-			
mediately after birth	-	-	86, 256 & seq.
—— the proper management first discovered and recommend-			
ed by the Author	-	-	256, & seq.
<i>Nitre</i> , proper in floodings	-	-	108
—— improper in the Puerperal Fever	-	-	156
—— in the Miliary Fever	-	-	167
<i>Northampton</i> , Puerperal Fever very fatal there	-	-	120, 234
<i>Number</i> of attendants hurtful to Women in Labour	-	-	19
<i>Nurses</i> have great share in the management of Lying in Women			23
—— too much left to their management in London	-	-	119

## O.

<i>Obstruction</i> and absorption of the Lochia, their difference	-	-	270
<i>Omentum</i> and intestines, their inflammation and mortification not the			
true cause of the Puerperal Fever	-	-	229
<i>Opiates</i> , when necessary	-	-	82
—— when improper	-	-	169

## P.

<i>Parturition</i> , natural, what method to be observed in	-	-	80
<i>Pains</i> , false, or spurious, their difference	-	-	231
<i>Perpiration</i> and sweat, the difference not generally known	-	-	97
<i>Peu</i> , his observations on the effects of Putrid Effluvia, Note	-	-	121

	Page
<i>Perfumes</i> of bad consequence	133
<i>Phlebotomy</i> , when improper	156, & seq.
<i>Placenta</i> , how to be extracted	87, & seq.
----- fatal causes of	214, & seq.
----- its retention, an object of controversy	69
<i>Poſition</i> , its consequence when	155
----- during delivery	83
----- horizontal, the cause of the Lochia being absorbed	270, 276
<i>Poſture</i> , sudden alteration of it dangerous	166
----- upright of the greatest consequence after delivery	93, & seq. 152
	246, 274
<i>Puerperal Fever</i> , its symptoms	17, & seq.
----- well known to Hippocrates	27
----- not to be ascribed to Inflammation alone	31
----- frequently malignant	ibid.
----- aggravated by heat of Air	32
----- more fatal in Hospitals than in private practice	22, & seq.
----- occasioned by absorption	31, 102, 105
----- never produced without foul Air, accumulation of feces, or horizontal posture	102
----- the Author never lost a Patient whom he had delivered in it	115
----- more common and fatal in London than in the country	119
----- fatal by wrong treatment	121
----- may always be prevented except in Hospitals	ibid.
----- its cure	136, & seq.
----- if managed according to the Author's directions generally curable	154
----- why so common and fatal at Northampton	233
----- not so general as from the assigned causes it might be	37
----- observed by some to be very fatal in 1770, but not invariably so	235
----- the discovery of its causes not much assisted by dissections	262
----- translation of the disease to the external parts a sign of recovery	266, & seq.
----- <i>Women</i> advised to use the temperate Bath when in hospitals	278
<i>Pulse</i> , its quickness a most distinguishing symptom in the Puerperal Fever	263, & seq.
----- quick in all absorptions of matter	264

## R.

<i>Ravenscroft, Ellen</i> , her Case	-	-	-	Page 186
<i>Registers</i> of different diseases, how long kept in Manchester	-	-	-	239
<i>Repose</i> upon a couch when adviseable	-	-	-	67
<i>Rigg, Betty</i> , her Case and Dissection	-	-	-	174, & seq.
——— Remarks upon the Case of	-	-	-	175, & seq.
<i>Rings</i> of Bees' Wax, their use	-	-	-	113

## S.

<i>Sago</i> , its sensible qualities	-	-	-	94
<i>Secundines</i> , their retention an object of controversy	-	-	-	69
<i>Shoulders</i> , of the Child, the manner in which they naturally pass through the Pelvis first discovered by the Author	-	-	-	74
——— common directions for delivering them improper	-	-	-	75
——— their improper delivery productive of great inconveniences	-	-	-	75, 254, 85
<i>Sitting</i> up in Bed soon after delivery of the utmost consequence	-	-	-	92, & seq. 152, 246, 274
<i>Spungy Chorion</i> entirely fitted for absorption	-	-	-	272 & seq.
<i>Stagnation</i> of the Lochia the cause of their absorption	-	-	-	104
<i>Stays</i> , tight, their bad consequence	-	-	-	66
<i>Sweat</i> and perspiration not distinguished by the ignorant	-	-	-	97
<i>Sweating</i> in Bed, hurtful to a person in health	-	-	-	99
——— particularly hurtful to Puerperal Women, and in all low nerv- ous and Putrid Fevers	-	-	-	100
——— to what extremes carried	-	-	-	164
<i>Sweat</i> will terminate a paroxysm of an Ague, but not prevent a fresh accession	-	-	-	101
——— critical, an act of Nature, and best promoted by what	-	-	-	ibid.
——— when improper	-	-	-	141
——— persons may be too hot for that evacuation	-	-	-	146

## T.

<i>Temperature</i> of the Lying in Chamber, its consequence	-	-	-	96
<i>Tenesmus</i> , frequent in the accession of the Puerperal Fever	-	-	-	25
<i>Tightness</i> of the Stays, hurtful to Pregnant Women	-	-	-	18
<i>Treatment</i> , what proper for preventing Puerperal disorders	-	-	-	90, & seq.
——— of Floodings	-	-	-	105, & seq.

## U.

<i>Upright Posture</i> , of the utmost consequence after delivery	92, & seq.	152, 246
---	------------	----------

Urine

<i>Urine</i> voided often, and very turbid	-	-	Page 25
<i>Uterus</i> , gravid pressing upon the omentum and intestines, supposed to be the true cause of the Puerperal Fever by Dr. Hulme			229, & seq.
—— controverted by the Author	-	-	231, & seq.
—— mortification of	-	-	314

## V.

<i>Vegetables</i> , their use much recommended	-	-	95
<i>Ventilators</i> , their use	-	-	128
<i>Vinegar</i> , fumigating Wards with, not so antiseptic as was supposed			131
<i>Volatiles</i> , improper when	-	-	107, 168
<i>Vomits</i> , gentle, serviceable	-	-	63, 144, & seq 170, & seq.

## W.

<i>Warm Bathings</i> , unsuccessful in the Puerperal Fever	-	-	277
<i>Water</i> , pump, much used in Manchester	-	-	118
—— Observations on that of London, by Dr. Heberden. <i>Note</i>	-	-	ibid.
<i>Whitehead</i> , Dr. his translation of Doucet's Memoir	-		33, 143
<i>Wine</i> , its use, when necessary	-	-	170
<i>Women</i> , puerperal, subject to putrescent disorders	-	-	17
—— too much confined to a horizontal posture after delivery			20
—— should get out of bed the day of delivery	-		102, 275
—— should sit up in bed in an hour or two after delivery			274
—— delivered by the Author, never troubled with Prolapsus Vaginæ			246
<i>Wrigley</i> , Mary, her Case	-	-	205, & seq.

## Y.

<i>Young</i> , Dr. recommends the cool regimen	-	-	234
—— his description of the Lying in Ward at Edinburgh	-		251
—— his account of the Puerperal Fever, as it appeared in that place			281
			& seq.









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